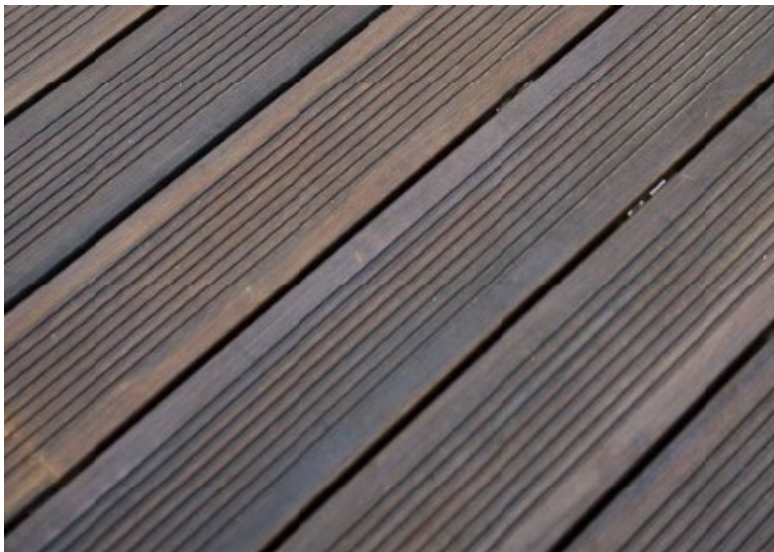




OPERATIONS & MAINTENANCE MANUAL

THERMO BAMBOO SOLID DECKING BOARDS including iDecking System



Botanical Name: *Phyllostachys Eterocicla*

Date **01/03/2022**

PRODUCT DESCRIPTION

Thermo Bamboo is an ultra-hard durable and truly sustainable decking product. It has a stunningly beautiful dark brown colour with a natural, luxurious appearance. It is an extremely durable and stable product, resistant to moisture and insect degradation, making it ideal as a decking product. It also has a superior fire resistance meeting Class B1 fire rating.

It is produced by taking stems of bamboo plants and, instead of kiln drying in the traditional timber process, the material is “steamed”. The material passes through a 200°C steam heat-treatment and heavy compression process. This boils away the sugars and moistures from the fibres and helps to crush them under the heavy pressure to increase the density.

This process turns the colour of the bamboo fibres from yellow / green to dark brown. The bamboo strands are bound together using a phenolic resin compound during this steaming and compression process to produce an ultra-hard decking product.

Thermo Bamboo has a very straight grain without knots which results in a stable board that does not bend, split or twist. It also does not absorb moisture and swell.

It is ideal as a decking product and can be used for small, medium or large floors, subjected to low or high levels of foot traffic, in private residential and commercial projects with a variety of different fixing details. It can also be used for cladding.

When exposed to sunlight and normal weather conditions over time, Thermo Bamboo decking undergoes a natural tone and colour alteration. The colour will fade and the boards turn greyish in colour after long-term exposure to the elements and UV light.

Regular cleaning and maintenance with appropriate oils can minimize this process.

Boards curling slightly and small surface cracks are perfectly normal and natural occurrences to Thermo Bamboo and tropical hardwoods and should not be considered as product defects.

Thermo Bamboo is a sustainable product and is considered to be CO₂ neutral by the Official Life Cycle Assessment (LCA) and carbon footprint studies (EN 15804) during the product lifespan.

PHYSICAL AND CHEMICAL PROPERTIES



Ask for
FSC®
certified
products

PHYSICAL PROPERTIES	Values
Specific gravity	1,200 Kg/m ³
Stability (24 hours of immersion in water at 20° C)	Length + 0.1% Width + 0.9% Thickness + 2.4%
Fire safety class (EN 13501-1)	Bfl-s1

MECHANICAL PROPERTIES	Values
Breaking strength (EN 408)	50.30 MPa
Modulus of elasticity (EN 408)	10,737 NMPa
Strength class (EN 338)	D 50
Hardness (EN 1534)	9.5 Kg/mm ² (Brinell)

NATURAL DURABILITY	
Durability	Class 1 (EN 350)
Use risk class	Class 4 (EN 335)
Surface fungi resistance	Class 0 (EN 152)

for installation upon screed with symmetrical milling, the following for 1 m² of flooring

	Quantity
FSC® Thermo Bamboo Deck Board 20x137x1,850 mm (gap 4 mm)	0.97 m ²
Substructure joist 42x45 mm dual-layer impregnated Larch wood 4 sides (centre distance 45 cm)	2.8 m
Clips: AISI 304 Burnished Stainless Steel "4 holes"	20 pcs
Screws: AISI 304 Stainless Steel - M 4.0x30 mm Torx Tx 15	40 pcs
Off-cuts and installation excluded	

for installation upon screed with concealed milling, the following for 1 m² of flooring

	Quantity
FSC® Thermo Bamboo Deck Board 20x137x1,850 mm	1,06 m ²
Concealed milling	1,06 m ²
Substructure joist 42x45 mm dual-layer impregnated Larch wood 4 sides (centre distance 30 cm)	3,5 m
Clips: AISI 304 Stainless Steel "4 holes"	25 pz
Screws: AISI 304 Stainless Steel - M 4.0x30 mm Torx Tx 15	50 pcs
Off-cuts and installation excluded	

PROCESSING OPTIONS

Pre-Oiling - one coat on all four sides

Tolerance: the indicated board sizes are nominal. The actual sizes may vary by up to 5% due to the nature of the wood material.

PRODUCT INSTALLATION

To be used on predominantly flat decks. Suitable for flat roofs, podium decks, balconies, terraces and walkways.

Before installation, it is recommended to store the boards flat. Do not stand them up against a vertical surface as this runs the risk of the boards starting to bend. The best method of storage is on well secured pallets.

Thermo Bamboo decking boards should preferably be stored in the shade and sheltered from the elements before installation.

Installation of Thermo Bamboo decking should be carried out using either visible screws passing through the top surface of the boards; via high quality hidden clips fitting to standard or symmetrical milling or via the iDecking comprehensive decking system using special iDecking milling of the boards.

The substructure joists should have a maximum centre distance of:

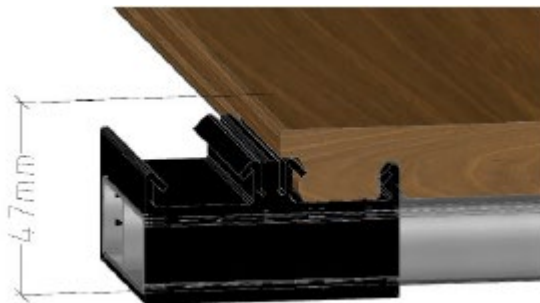
1. Visible top screws maximum 45cm



2. Hidden fixings – maximum 30cm



3. iDecking system - maximum 40cm



Please refer to Wallbarn's EasyClick Installation and EasyChange Installation Guides included as appendices to this document and the iDecking installation videos here <https://www.youtube.com/user/Wallbarn/videos>.

If laying onto support pedestals maximum centres between pedestals is 60cm.

If installing decking onto structural decks, ensure the surface is sufficiently strong to tolerate the weight of the system. Waterproofing membranes to be adequately protected before installation to prevent point loading and / or puncturing of membrane.

Cutting and Drilling

Premium carbide tipped saw blades and high-quality carbide drill bits are recommended to achieve smooth cuts due to the hardness of Thermo Bamboo. Pre-drill a pilot hole and countersink when using screws as fasteners.

Thermo Bamboo when cut with suitable blades produces a clean, smooth finish except where the grain is very ropey. It has a blunting effect on the cutting edges so blades and drill bits will wear out quickly and will require regular replacement.

PRODUCT PERFORMANCE

Thermo Bamboo decking, if well maintained, is extremely long lasting with a product Warranty of 25 years and a lifespan of up to 50 years. It carries a performance warranty with Wallbarn of 15 years. With care and attention, the decking can look and perform for many years beyond the warranty period. Please refer to the Limited Warranty details and conditions later in this manual.

Thermo Bamboo is rated Bf1-s1 (DIN EN 13501-1:2010) for fire resistance, making it an ideal choice. It also stays cool even in the hot sun so is ideal for bare feet.

SURFACE CRACKS

Thermo Bamboo boards can have small surface cracking over time. This is perfectly normal and do not affect the durability, longevity, insect or water-resistance properties in any way. See Scope of Guarantee Information later in this datasheet.

SPLITTING

Thermo Bamboo picks up minimal moisture and, typically, experiences only minor shrinkage or movement after installation. Due to the manner it is produced, Thermo Bamboo is so dense and smooth that it rarely splits.

CURLING

Thermo Bamboo has a very straight grain without knots which results in a stable board. It can be subject to a small amount of curling where, for instance; there is insufficient ventilation under the boards. If the clearance from the sub-surface is too low or if there is insufficient drainage beneath moisture levels can build up and cause curling of the boards.

Also, a large amount of sunlight or heat on the upper surface can cause curling of the boards.

This does not affect the strength or performance of the decking in any way.

Please see the maintenance section for details on how to address this issue.

MAINTENANCE DETAILS

Regular maintenance with oil is recommended. Since over time and exposure to the elements the surface of Thermo Bamboo decking will turn a silvery grey weathered appearance.

If users wish to maintain the original colour and appearance (some prefer the weathered look) they can use the MyDeck Grey Off cleaning solution at least once a year to clean the decking surface. To enhance the appearance further and restore elements of the original colour apply MyDeck clear wood oil.

Where more thorough cleaning is needed, the boards can be jet washed or sanded before using the cleaning solution and oil.

Care and maintenance work should only be carried out in dry weather at temperatures between 10 and 25° C. Do not attempt any cleaning or coating of the Thermo Bamboo deck surface in rain or during damp weather.

GARDEN POTS & PLANTS

Flowerpots can create potential problems with staining when sitting directly on the deck. Minerals from the soil and fertiliser can produce discolouration on the decking. Wallbarn recommends using a plant stand or Wallbarn 7mm PVC pads to elevate the pot and enable air flow underneath.

FURNITURE

Wallbarn strongly recommends using protective pads or coasters under the legs of furniture to prevent scratching the surface of the decking.

All items regularly left on the decking can impact on the weathering that the boards received. Wallbarn recommends that all items of furniture are regularly moved to allow for more evenly distributed weathering.

CLEANING & TO ADDRESS FADING

Washing / sanding with specialist equipment using approved cleaning products and treating with oil as part of a regular care & maintenance plan.

CLEANING & TO ADDRESS FADING

There are two ways to clean Thermo Bamboo decking:

- Using a jetwash / power hose
- Using the **Timber Decking Washing Machine with 2 Brush Roller**

Additional tools required are soft brooms, long handled rollers and rubber brooms / squeegees, cloths and sponges.

STEPS FOR CLEANING

a) by Jetwash / power hose

1. Ensure the gaps between boards are free of any foreign material to allow for proper drainage.
2. The great advantage of Thermo Bamboo is that it CAN be jetwashed / power hosed to take off the greyish outer surface from the decking and remove some of the surface dirt before applying any cleaning solution. This jet washing helps remove the grey to bring back the original dark brown colour.
3. However, be very careful. Do not put the jetwash to too high a setting and try to avoid creating streak marks from the jet.
4. Apply the Grey Off deck washing solution diluted according to the instructions on the bottle using with either a cloth or a manual spray directly onto the decking surface.
5. Wait for approximately 1 hour. There is no issue if the surface starts to dry out.
6. Jetwash the surface to remove the Grey Off solution.
7. Allow the surface of the deck to dry fully. We recommend at least 1 coat of MyDeck wood oil is applied to the dried surface. MyDeck wood oil can be applied using a long handled roller.
8. Allow the decking to dry completely before putting any furniture or items back in place.

b) Using the Timber Decking Washing Machine with 2 Brush Roller



SPECIFICATION

Timber Decking Washing Machine with 2 Brush Roller (black)

Width: 400mm
Power absorption: W 2,300

Roller speed: rpm 1,100
Surface yield: m²/h 400
Electrical frequency: Hz 50
Voltage: 220 – 240

Transformer / converter plug is required

Weight: 30 Kg
Dimension: Width 520mm
Length 470mm
Height 380mm

A video of demonstration is here https://www.youtube.com/watch?v=CbMC9R_BY78

b) Using the Timber Decking Washing Machine with 2 Brush Roller

1. Ensure the gaps between boards are free of any foreign material to allow for proper drainage.
2. Apply the Grey Off deck washing solution diluted according to the instructions on the bottle using with a manual spray tank onto the timber deck surface. The Tank holds 3 litres. Alternatively, the Grey Off can be applied using a long handled roller.
3. Wait for approximately 1 hour. There is no issue if the surface starts to dry out.
4. Load the tank of the Washing Machine with either pure water or a small amount of Grey Off diluted into the water.
5. Load clean water into the top tank on the machine (black tank).
6. The yellow handles start the water flushing through the machine. The black handle starts the roller mechanism.
7. Beneath the black tank another grey tank holds the dirty water. This tank needs to be emptied regularly.
8. Install the Black roll onto the Washing Machine.
9. Start to wash the surface of the deck
We do not recommend using the absorption tube on the Washing Machine as a considerable amount of dirty water will build up meaning many numbers of changes to the tank of the Washing Machine will be required.
10. At the end of the washing process the excess dirt and water can be easily removed from the surface with regular water (a number of surfaces washes may be required to remove all surface dirt).
11. If the deck is still grey after washing, allow to dry then sand the surface gently.
12. Allow the surface of the deck to dry fully. We recommend at least 1 coat of MyDeck wood oil is applied to the dried surface. MyDeck wood oil can be applied using a long handled roller.
13. Allow the decking to dry completely before putting any furniture or items back in place.

If applying 2 or more coats of MyDeck wood oil allow 12 – 24 hours between coats and only apply MyDeck wood oil in dry conditions.

For difficult or hard to remove stains, please contact our Technical Department on 0208 916 2222 or info@wallbarn.com for advice.

TO ADDRESS CURLING

1. Purchase hardwood screws and caps to fix down the sections of boards which are lifting.



2. Pre-drill the Thermo Bamboo before attempting to fix the screw.
3. Drill around the screw hole to the circumference and the depth of the wooden cap – see YouTube video <https://www.youtube.com/watch?v=RM8QaHX30VI> .
4. Fix the screw through the hole in the timber board so it connects to the aluminium rail beneath.
5. Apply the cap on to the top of the screw head and tap the cap into the hole - use wood adhesive as an option – see YouTube video <https://www.youtube.com/watch?v=RM8QaHX30VI> .
6. Sand down the top of the cap so that it is flush to the level of the decking board.
7. Stain the cap to match the colour of the Thermo Bamboo.

The major hazards identified for these products are physical and include manual handling. Sparks may be generated from cutting processes.

Thermo Bamboo is very hard and difficult to cut. Always use Carbide tipped saws and drills. Cutting can cause dust particles which can irritate eyes and skin.

Although severe reactions are quite uncommon, dust from Thermo Bamboo has been reported to cause skin, eye, and respiratory irritation.

Proper protective clothing and equipment should always be used when handling and cutting Thermo Bamboo.

FIRST-AID MEASURES

In the event of cuts and damage from dropped timber, wash out wound with plenty of clean water. Seek medical attention.

In the event of skin, eye, and respiratory irritation seek medical attention as soon as possible.

Sawdust or splinters into the body can cause infection so medical treatment should be sought immediately in the event of ingress into the body.

FIRE-FIGHTING MEASURES

Thermo Bamboo decking achieves fire resistance Class Bfl-s1 (decking) and B-s1-d0 (cladding, fencing, beams) (EN 13501-1) without use of fire retardants.

It also achieves flame spread index Class A following ASTM E84.

Therefore, it can be easily installed in public areas without additional protection and does not constitute a fire hazard.

Use extinguishing media appropriate to the surrounding fire conditions.

ACCIDENTAL RELEASE MEASURES

Damaged product can be taken up and disposed of to landfill if necessary. However, recycling is the preferred method of disposal. As supplied, the products are not classified as hazardous.

HANDLING AND STORAGE

When handling product, due regard should be paid to the risks outlined in the Manual Handling Operations Regulations 1992, appropriate PPE should be used.

The decking boards will be delivered secured onto pallets. Suitable lifting equipment should be used to move pallets operated by qualified personnel.

The product should be stored in a safe and stable manner. It is recommended to store the boards flat. Do not stand them up against a vertical surface as this runs the risk of the boards starting to bend.

When cutting Thermo Bamboo decking boards always use Carbide saw blades and drill bits. Carbide saw blades will give a clean cut, quickly and safely.

When cutting the product with a saw, appropriate measures to control dust should be used and proper breathing and eye protection should always be worn.

PERSONAL PROTECTIVE EQUIPMENT:

Wear suitable protective clothing e.g. overalls, gloves and safety boots to reduce the chances of physical injury while using this product.

Local Exhaust Ventilation, goggles and a dust mask to the relevant European standard (EN149) is required when cutting.

ECOLOGICAL INFORMATION

Thermo Bamboo is a sustainable product and is considered to be CO2 neutral by the Official Life Cycle Assessment (LCA) and carbon footprint studies (EN 15804) during the product lifespan.

It is made from fast growing bamboo plants which can grow up to 1 metre in length per day. The bamboo is cut back to the roots and not felled, so the root structures stay intact after harvesting and generate new shoots immediately. This means there is no deforestation after harvesting and no removal of topsoil.

The bamboo plantations will renew fully within 5 years.

The Life Cycle Assessment (LCA)-based “eco cost” of bamboo, as a useful indicator for ecosystem deterioration, human health problems, and depletion of metals and fossil fuels, is significantly lower for bamboo compared to plywood from forest wood sources.

Research indicates that even if high-quality bamboo products have come from China to Europe, the net carbon effect is typically neutral or better. Bamboo can replace tropical hardwood, so it can potentially mitigate the impact of tropical forest destruction.

There is very little waste material created during production and end of life material should be upcycled or recycled. It is particularly suitable for biomass energy.

DISPOSAL CONSIDERATIONS

It is strongly recommended that Thermo Bamboo is recycled into another timber use or used in biomass energy production at end of life. Disposal of this product at any approved solid waste disposal site is possible. Disposal of the product should be in accordance with any local or national regulations.

WARRANTIES

A Limited Warranty exists that the products will comply with the test data as laid out in this document for a period of 15 Years. Warranty is limited to replacement of products which have been installed in the correct manner and for the correct purpose only. Warranty is limited to the value of the cost price of the materials only, not replacement costs or any other labour cost.

Under no circumstances shall Wallbarn Ltd be held responsible or liable for any incidental, consequential, indirect, special, punitive or any other damage (including,

but not limited to, loss of profits, loss of sales, loss of start-up, loss or reduction of work).

The lifespan of Thermo Bamboo decking boards is expected to be at least 25 Years.

This Limited Warranty covers solid Thermo Bamboo deck boards on condition that the Installation and Care & Maintenance Instructions are followed and our deck boards are installed according to Wallbarn Ltd guidelines and Standard UNI 11538-2.

See Annex B “Wallbarn Decking Installation Manual” using approved application products.

See Terms and Conditions of the Warranty and Scope of the Guarantee below for other exclusions and limitations of this Warranty.

1) WARRANTY TERMS AND CONDITIONS

- 1.1 Complaints are physically examined by Wallbarn Ltd.
- 1.2 Complaints / claims should be filed in writing to Wallbarn Ltd.
- 1.3 Proof of purchase of the deck boards should accompany the written complaint / claim. Complaints / claims without the appropriate documentation will not be considered.
- 1.4 The company examining complaints (or its representatives) reserves the right to check the deck boards in the place of installation, the manner they have been installed and obtain details of the care and maintenance programme carried out on the decking before giving considering the complaint / claim.
- 1.7 The complaint / claim is only valid if the products are installed in the territory that the original purchase was made.
- 1.8 Wallbarn Ltd reserves the right to either repair the defect or to offer material free of charge to the customer.
- 1.9 Wallbarn Ltd warrants that Products “Thermo Bamboo deck boards” applied in Use Class 4 as defined by EN 335-1 will not be damaged by decay caused by soft-rot fungi and wood destroying fungi and that the Products “Thermo Bamboo deck boards” will perform in their intended function for a guaranteed lifetime of 25 years.

The above guaranteed lifetime of the Products “Thermo Bamboo deck boards” exists only where the Products have been installed in the correct and proper manner.

For the avoidance of doubt the natural oxidation process of the wooden deck boards, fading and colour changes including turning silver / grey colour are not covered by this Limited Warranty.

Furthermore, small surface cracks on the Products “Thermo Bamboo deck boards” are not covered by this Limited Warranty.

2) VISUAL APPEARANCE WARRANTY ON DELIVERY

Each decking board is carefully inspected by our quality control team personnel prior to leaving our factory to ensure they are defect free. We urge Customers and the installers to inspect each board prior to installation. This Limited Warranty does not extend to cover defects in wooden deck boards on delivery after installation has taken place.

3) SCOPE OF THE GUARANTEE

- 3.1 This guarantee is issued in accordance with and is subject to the laws of England & Wales.

- 3.2 Obvious defects in the boards should be communicated to the supplier within 30 days from the delivery date of goods on site/warehouse. Claims regarding obvious defects after this period will not be considered.
- 3.3 To be able to make use of the Warranty the product - Thermo-treated Bamboo - must be installed according to the Installation Instructions. Use fixings recommended and approved by Wallbarn Ltd as indicated in the appropriate technical documentation. The use of other types of fixtures not provided or approved by Wallbarn Ltd invalidates this Warranty.
- 3.4 If a claim is granted before installing the material, faulty deck boards are replaced free of charge.
- 3.5 No claims can be accepted after installing the material if the buyer could have detected the defects before installation. This Warranty does not cover damage caused by third parties before installation.

The chart below (source UNI 11538-1 and Wallbarn Ltd Terms & Conditions of Supply) indicates what shall not be considered as an obvious defect.

CHARACTERISTICS	WOODEN ELEMENTS – BROAD-LEAVED WOODS
Tone and colour variability over time	Allowed, a natural occurrence
Chamfers ¹	Defect
Surface cracks / fissures on the visible side	Allowed if: Depth is less than or equal to 1/3 of board thickness Width is less than or equal to 0.5mm Length is less than or equal to 100mm
Cracking along the sides	Small splinters & cracks allowed
Cupping	Allowed
Non traversing edge fissures on the heads of the boards	Allowed if length is less than or equal to 20mm
Wood core and fake heartwood	Defect
Fractures and mechanical damage	Allowed on the non-visible side if the depth is less than or equal to 2mm
Environmental conditions including atmospheric pollution, mould, dirt build	Excluded from Warranty
Discolouration by foreign substances (oil, chemical agents, etc.).	Excluded from Warranty
Use of fixings / fasteners not sourced from Wallbarn Ltd	Excluded from Warranty
Incorrect handling of materials / failure to comply with Installation Instructions	Excluded from Warranty

Movement / collapse of ground beneath decking	Excluded from Warranty
Application contrary to Installation Instructions or for purposes contrary to local and national building regulations.	Excluded from Warranty
Ordinary wear and tear	Excluded from Warranty

1 As defined in the Standard EN 13756. Mechanical finishing on the individual boards is not considered to be chamfers.

TRANSPORT INFORMATION

Classification for conveyance: - None required.

Best method of transportation is strapped securely onto pallets.

KEY CONTACTS

Wallbarn Ltd.

Unit 16 Capital Business Centre, 22 Carlton Road, South Croydon CR2 0BS

Tel: +44 (0)208 916 2222 Fax: +44 (0)208 916 2223

Email: sales@wallbarn.com

Web: www.wallbarn.com

APPENDIX A:

The following table summarizes the documents and URLs referenced in this document:

Document Name	Location
Decking website URL	https://www.wallbarn.com/decking-2/ourrange/
Wallbarn Ltd Terms & Conditions	https://www.wallbarn.com/terms-conditions-of-supply/

APPENDIX B:

The following documents offer guidance for installation using the iDecking comprehensive decking systems:

c Wallbarn Decking Installation Manual

c iDecking EASYCLICK Installation Guide 2018

c iDecking EASYCHANGE Installation Guide REV3 2020
b iDecking Installation Guide 2021
a Wallbarn Pedestal Overview Brochure A4 2022
Wallbarn Limited Warranty