

MOSO[®] Bamboo X-treme[®]

Durable, sustainable
and beautiful
outdoor products



Ron Turner Studios



Hover Imagery



André Clemetsen





Bamboo: the fastest growing plant in the world



certified

durable & sustainable

Class 1 <small>CEMIS 15083-2</small> EN350	25 YEARS WARRANTY	CO₂ NEUTRAL
---	-----------------------------	----------------------------------

fire resistant

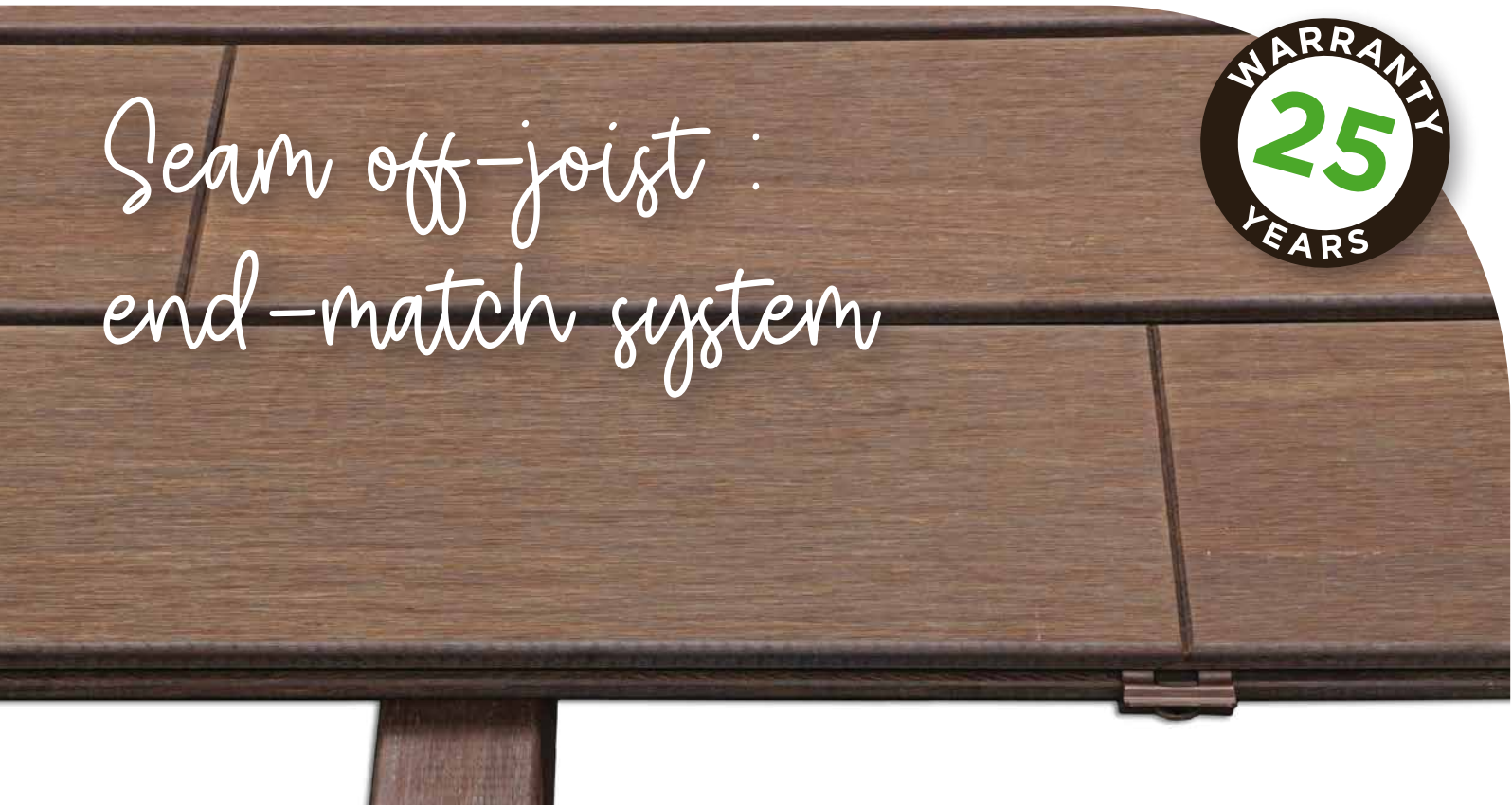
Class A <small>EN 13501-1</small>	WUI <small>EN 13501-2</small>	Bfl-s1
---	---	---------------

proven

Since 2008 over 55 million sqft installed, in more than 60 countries.

complete range

- Decking & Deck Tiles
- Porch flooring
- Soffit, Trim & Fascia Boards
- Rainscreen & Accent Siding
- Fencing
- 2x Beams



Seam off-joint : end-match system



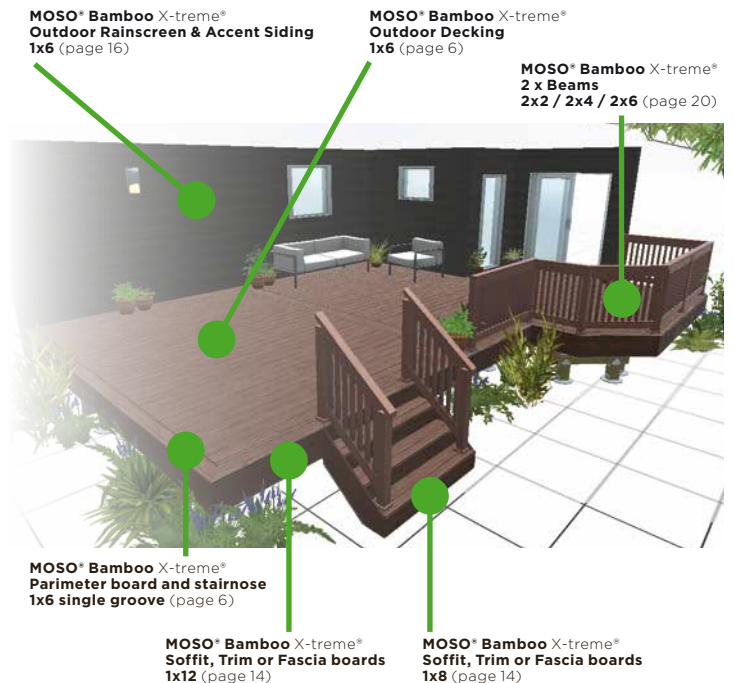
MOSO®

Bamboo X-treme®

With Bamboo X-treme®, MOSO® has developed an **ecologically sustainable** and **durable** exterior product. MOSO® uses a unique Thermo-Density® process to enhance the **hardness, dimensional stability, fire resistance** and **durability**, compared to other natural exterior products. The MOSO® Bamboo X-treme® range includes **Outdoor Decking, Deck Tiles, Porch flooring, Soffit, Trim & Fascia Boards, Rainscreen & Accent Siding, Fencing** and **2x Beams**.

table of contents

from bamboo to Bamboo X-treme® benefits	4 5
Bamboo X-treme® Outdoor Decking accessories care & cleaning	6 8 9
Bamboo X-treme® Outdoor 2x2 Deck Tile	10
Bamboo X-treme® Porch flooring or Soffit	12
Bamboo X-treme® Soffit, Trim & Fascia Boards	14
Bamboo X-treme® Outdoor Rainscreen & Accent Siding	16
Bamboo X-treme® Outdoor Fencing	18
Bamboo X-treme® 2x Beams	20
test results	22
sustainability	24
user information	26
endless possibilities	26



from bamboo to Bamboo X-treme®

The fast growth and abundant availability makes bamboo a perfect source for many applications in and around buildings. With good reason, it's often called **'the building material of the future'**. However, bamboo as a raw material cannot be used outdoors without a protective treatment. We are able to make Bamboo X-treme® an exceptional outdoor product through the Thermo-Density® process. Let us explain how we get from the raw bamboo material to the final product, MOSO® Bamboo X-treme®.

stem to strands

After harvesting, the mature Moso bamboo stems are split in a longitudinal direction and the outer and inner skins are removed. The strips are then crushed using a number of incision rollers which create cross linked strands. The untreated strands have a light yellow color.

thermal modification

In several steps, the strands are heated up to 392°F in the presence of a saturated steam (to protect the wood from charring or burning) and cooled down. During processing, the moisture content and sugar content change. Furthermore, this process changes the color of the bamboo from white/yellow to deep/dark brown.

from strands to product

The dark bamboo strands are dipped into phenolic glue (< 10% of the weight of the bamboo). After drying, the strands are put into a mould, and are then compressed under high temperature and at a very high pressure, to cure the glue. The output is a large panel, which is cut into smaller sections (boards or beams). These are then further machined and profiled to get the required shape (for example, for decking: a reeded surface and edge grooved along the sides to allow installation with fasteners).


Thermo-Density®

We call the combination of compressing and thermally treating strands a Thermo-Density® process. It increases the density from 650-700 kg/m³ to approx. 71.79 lbs/ft³ and improves the hardness of this product significantly. After pressing, the material is stronger and harder than almost any other hardwood in the world. At the same time, the dimensional stability of bamboo is improved by approximately 50%.

Besides stability and hardness improvements, the durability is improved to the best durability class possible, from Class 5 to Class 1: Class 1 (EN 350) CEN/TS 15083-2 - simulated graveyard test and Class 1 (EN 350) CEN/TS 15083-1.

durability class according to EN 350 (CEN/TS 15083-2 / CEN/TS 15083-1)

	5	4	3	2	1
MOSO® Bamboo X-treme®					
Ipé					
Strand Woven Bamboo					
Bangkirai					
Oak					
Scots Pine					

 range of durability results

MOSO® Bamboo X-treme® is also well protected against superficial fungi Class 0 (EN 152), and achieves the use/risk Class 4 according to EN 335.

Only MOSO® can ensure you have the original, unique Bamboo X-treme® product. Other products that attempt to copy the original, do not offer the same quality or level of durability, dimensional stability and ecology. With a look-alike product, there is a large risk of claims after installation. **Always ask for the original, certified MOSO® Bamboo X-treme® products!**

harvesting after 4-5 years



thermally modifying the bamboo strands at 200°C



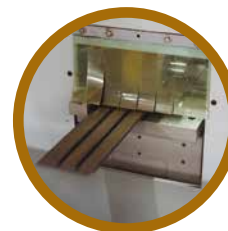
split the Moso bamboo stems, remove the outer skin and crush the strips into strands



compressing the strands into Thermo-Density® material



creating the final profile and surface



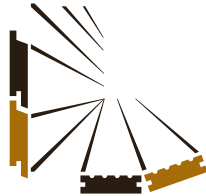
MOSO® Bamboo X-treme®: material more stable, harder and stronger than almost any other hardwood in the world!

discover the **Bamboo** X-treme® benefits



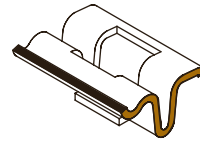
hard & durable

- Biological durability Class 1 (EN 350 / CEN/TS 15083-2), simulated graveyard test / Class 1 (EN 350 / CEN/TS 15083-1).
- Use Class 4 in accordance with EN 335.
- Effectiveness against blue stain Class 0 (EN 152).
- Exceptionally hard: Brinell >9.5kg/mm² (harder than any tropical hardwood available).
- MOSO provides Bamboo X-treme® outdoor products* with up to 25 years warranty.



high stability

- Very stable as a result of the "Thermo-Density™" process of thermal modification combined with High Density® compression.
- Far more stable than tropical hardwoods - enabling end-match system (tongue & groove on ends).
- Limited tendency to torsion.
- No gap between the ends of the boards necessary.
- Only 3/16" expansion gap between boards.



easy to install

- Can be installed using hidden fasteners (edge grooved) or face screwed.
- Both sides of the board - reeded or smooth - can be used.
- Fixed board length 6', easy for 1 person to install.
- MOSO® Fasteners make it easy to install and uninstall.
- End-match system simplifies the installation by allowing the joint to float between the joists.
- Complementing Thermo-Density® sub frame joists available.



economical

- Simple and fast installation: Up to 30% savings in installation costs!
- Reduced waste because of the end-match system.
- Cost effective transportation because of the fixed 6' length.
- Cost effective and space reducing stocking because of unique multi usable board.



beautiful appearance

- A beautiful, natural hardwood look.
- Choice for smooth or reeded surface in one reversible board.
- Use of hidden fasteners reduces face screwing and plugging.
- Free of knots and natural plant resins.
- Choice for natural fading, resulting in a natural grey color or maintaining the rich brown color using an exterior finish.



endless resource

- Made from bamboo; with a growing speed of up to 3' per day the fastest growing plant on earth.
- Ready for harvest after 4-5 years (compared to up to 100 years for hardwood species) - no deforestation.
- Consisting of approx. 90% natural bamboo.



CO₂ neutral

- Official LCA and carbon footprint studies (EN 15804) confirm that MOSO® Bamboo X-treme® is CO₂ neutral during the product lifespan**.
- No use of fungicide in the production.



fire resistant

- Achieves a Class A rating under ASTM E84. CAN/ULC-S102 achieved indexes for Flame Spread of 25 and Smoke Developed of 45.
- Reaches fire resistance Class Bfl-s1 (decking, porch flooring) and B-s1-d0 (siding, fencing, soffit, trim and fascia boards, 2x beams) following EN 13501-1 without use of fire retardants.
- The bamboo decking and siding products that meet the California fire code requirements for WUI (Wildfire Urban Interface) zones.

*) MOSO provides Bamboo X-treme® 2x Beams with 10 years warranty.
 **) This includes the CO₂ (biogenic carbon - EN 16449) stored in the product.



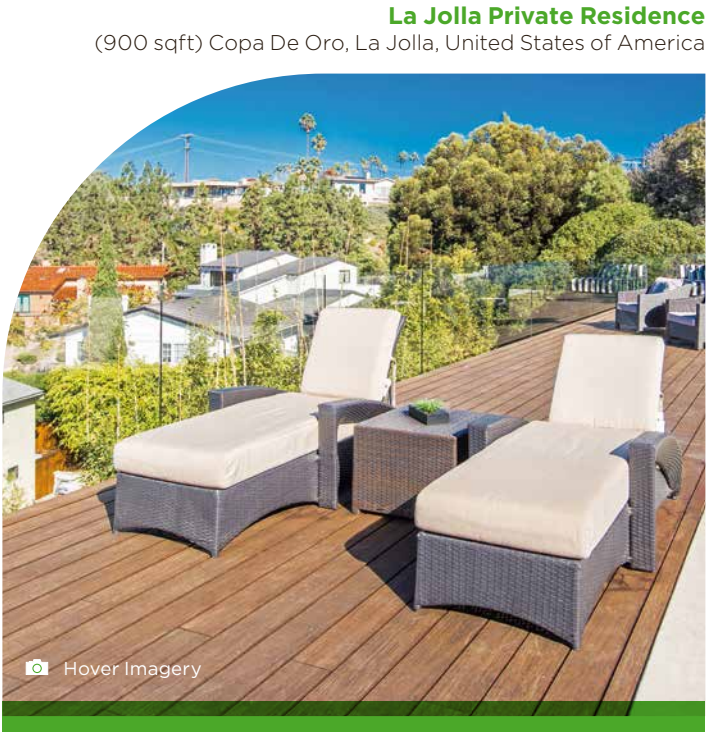
Fraser Decks & Patio Covers
 Reily Imagery

Solana Beach Private Residence (325 sqft) California, United States of America



TBG Partners
 Matthew Hoopengardner

Omni Barton Springs Country Club
 (6,600 sqft) Austin, Texas



La Jolla Private Residence
 (900 sqft) Copa De Oro, La Jolla, United States of America

Hover Imagery

MOSO® Bamboo X-treme® Outdoor Decking

MOSO® Bamboo X-treme® is a solid, Thermo-Density® decking board, made from compressed bamboo strips. A special, thermal modification process at 392°F (200°C) provides MOSO® Bamboo X-treme® the highest durability class possible in the appropriate European standard (see technical characteristics below) and increases the hardness and stability. A unique feature of MOSO® Bamboo X-treme® is the end-matched connection: this can only be done with very stable materials and enables connection of an unlimited number of boards in the length. The special symmetrical shape of the sides offers the possibility to choose between either the standard groove or the smooth surface, and allows for quick installation with MOSO® Fasteners. Bamboo X-treme® will weather over time to a silver patina.

1 x 4 x 6
Board unfinished with tongue
G2 / Smooth (reversible)



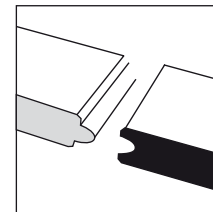
1 x 6 x 6
Board finished with tongue
G1 / Smooth (reversible)



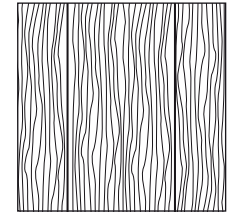
1 x 7 x 6
Board finished with groove
G2 / Smooth (reversible)



End-matched



High Density*



Board	Product Code	Surface	Edge groove	End-matched	Length edges	Size	Dimensions (")
Decking	BO-DK20-G2-96UF	Smooth/Smooth	Both sides	Yes	Macro Bevel	1 x 4 x 6	3/4 x 3 7/8 x 72
Trim/perimeter	BO-DK20-G0-96UF	Smooth/Smooth	Not grooved	No	Eased Edge	1 x 4 x 6	3/4 x 3 7/8 x 72
Decking	BO-DK20-G2-UF	Smooth/Reeded	Both sides	Yes	Macro Bevel	1 x 6 x 6	3/4 x 5-3/8 x 72
Trim/perimeter	BO-DK20-G1-UF	Smooth/Reeded	One side	Yes	Macro Bevel	1 x 6 x 6	3/4 x 5-3/8 x 72
Decking	BO-DK23-G2-UF	Smooth/Reeded	Both sides	Yes	Macro Bevel	1 x 7 x 6	3/4 x 7 x 72
Trim/perimeter	BO-DK20-G1-205UF	Smooth/Smooth	One side	Yes	Macro Bevel	1 x 8 x 6	3/4 x 8 x 72

installation summary

- Install a suitable, fixed, stable and durable joist system. 12", 18" or 24" joist spacing is optimal. 16" is acceptable.
- Determine which side of the board will be used: the reeded or smooth surface.
- Don't forget to make sure that there is adequate airflow below the deck especially when installing with low ground clearance. Even though Bamboo X-treme® Decking can be installed closer to the ground than any other natural material, proper air flow is a separate issue and can have an adverse effect on the deck if not properly done.
- Fix the boards on the joist system using hidden fasteners (CLIP-SCREW-BX08 - to be inserted in the grooves of the board) or alternatively with screws (through the surface).
- Don't forget to make sure you float a fastener at the end-match when floating the joint. The fastener will provide added support and maintain proper spacing between the boards.
- Use a 1-2% slope to ensure water drains off the surface of the decking.
- Unfinished Bamboo X-treme® Decking can be left to weather naturally or can be finished 3-4 months after installation.
- When not applying outdoor oil regularly, the deck will acquire a grey color tone and the typical bamboo grain structure will become less visible.
- After installation: make sure proper cleaning and maintenance is done, according to the chosen finish.
- For further info: please see the installation/maintenance instructions.
- Store in a cool and dry place away from direct sunlight, and protected from weather influences, dirt and dust.
- Full version available at ▶ www.moso-bamboo.com/us/x-treme/decking

technical characteristics and certifications

- Density: +/- 71.79 lbs/ft³
- Dimensional stability:
length: + 0.1%; width + 0.9% (24 hours in water 68°F)
- Resistance to Indentation - Average Brinell Hardness: ± 1,350 psi (EN 1534)
- Reaction to fire: Class Bfl-s1 (EN 13501-1)
- Flame spread index: Flame spread 25, Smoke developed 45
Class A (ASTM E84) / CAN/ULC S102 (WUI approved)
- Slip resistance - new material: USRV 55 (Dry), USRV 29 (Wet), USRV 91 (Dry), USRV 42 (Wet) (Pendulum friction test - CEN/TS 16165 Annex C - CEN/TS 15676) / R 10 (Shod ramp test - CEN/TS 16165 Annex B - DIN 51130) / Class C (Barefoot ramp test - CEN/TS 16165 Annex A - DIN 51097)
- Slip resistance - weathered material: USRV 100 (Dry) (CEN/TS 16165 Annex C) / R 11 (CEN/TS 16165 Annex B - DIN 51130)
- Thermal emittance: 0.81 (ASTM C1371)¹⁾
- Solar Reflectance (SR): 0.32 (ASTM C1549)¹⁾
- Solar Reflectance Index (SRI): Low 27, Medium 30, High 33 (ASTM E1980)¹⁾
- Modulus of Elasticity: 13565 MPa (EN 408, equivalent ASTM D 198)
- Bending strength: 54.4 MPa (EN 408, equivalent ASTM D 198)
- Biological durability: Class 1 (EN 350 / CEN/TS 15083-2), simulated graveyard test / Class 1 (EN 350 / CEN/TS 15083-1)
- Effectiveness against Blue Stain: Class 0 (EN 152)
- Use Class: Class 4 (EN 335)
- CO₂ neutral: LCA report TU Delft (ISO 14040/44) (www.moso-bamboo.com/lca)
- Environmental Product Declaration - EPD (EN 15804) (www.moso-bamboo.com/epd)
- Contribution LEED BD+C - v4: MR 1, MR 2, MR 3 (FSC®), EQ 2, SS 7 v2009: MR 6, MR 7 (FSC®), IEQ 4.3, IEQ 4.4
- Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5 (HD)
- Warranty: 25 years

¹⁾ Tested on 3 years weathered MOSO® Bamboo X-treme®.



Check out the full installation instruction ▶



MOSO® Bamboo X-treme® Outdoor Decking & Siding accessories

MOSO® Fasteners

With these fasteners MOSO® Bamboo X-treme® Decking and Siding can be easily installed. When installed correctly there will be 3/16" gap between the boards. The fasteners are supplied with matching stainless steel screws (square bit). For installation on aluminium sub frame joist, special screws are available.

Product Code	Item	Material	Color	Dimensions (")	Dimensions (mm)
CLIP-SCREW-BX08	Fastener Asymmetric with screw (20 mm)	Stainless steel A2 (AISI304)	Brown	11/6 x 57/64 x 27/64	27 x 22.5 x 10.8
SCREW-BX11-01	Screw for aluminium sub frame joist	Stainless steel A2 (AISI304)	Black/Silver*		4.2 x 20



CLIP-SCREW-BX08



SCREW-BX11-01
* Only black screw head



Usage fastener / box 90 pcs

Bamboo X-treme® width	on center		
	16" / 406 mm	18" / 457 mm	24" / 610 mm
4" / 96 mm	40sf	47sf	67sf
6" / 137 mm (5 3/8")	50sf	57sf	77sf
7" / 178 mm	58sf	65sf	85sf

Proplug Screw and plug kits

Product Code	Discription	Box pcs	Box Lbs	Case qty boxes	Case qty Lbs
PROPLUG-SET100	Set 100 plugs + screws 305 stainless + glue nozzle	100	1.00	6	6
PROPLUG-SET350	Set 350 plugs + screws 305 stainless + glue nozzle	350	2.80	4	11
PROPLUG-SMART	Proplug Smart Bit drilling and countersink toll #8 Trim head			6	1



MOSO® Bamboo X-treme® Outdoor Decking

care & cleaning

MOSO Bamboo X-treme® is a natural product and will perform well in virtually any climate. It has similar performance properties to outdoor rated exotic hardwoods and should be cared for similarly. We consider it low to medium maintenance. Nothing installed in an exterior application is truly no maintenance.

care

The surface of decking will weather under influence of wind, rain, frost and sunshine (UV). As a result, the surface turns grey. Dirt will accumulate; splinters and small fissures may also appear. The best time for initial maintenance is a few months (3-4) after installation to allow for the grain to open up and allow a better absorption of the finish.

care of smooth surface

Please be aware of the fact that on the flat surface, irregularities in the surface (e.g. cracks, splinters) may be more visible than on the grooved surface. With regular maintenance with Messmer's MOSO® Bamboo Finish Oil, this will be reduced.

cleaning

Never use a pressure washer on Bamboo X-treme®!

- If you want to maintain the unfinished look MOSO recommends cleaning the deck with Messmer's Deck Cleaner and Messmer's Brightener and apply a clear finish. This will keep the MOSO® Bamboo X-treme® in the best condition for its longest best life.
- Annual cleaning of your MOSO® Bamboo X-treme® Decking is recommended.
- Sweep with a broom or blow off with a leaf blower any loose debris first.
- Apply Messmer's Hardwood cleaner with a pump sprayer. Mix to instructions on packaging. If you do not have this cleaner. TSP or ¼ vinegar to ¾ water will also work. Spray the surface with cleaner and allow to rest on surface for 15-20 minutes.
- Scrub with a natural or plastic bristle brush lengthwise with the grain until the surface appears clean. For larger decks you may use a floor buffer with a scrubbing head.
- Rinse thoroughly with clean water
- Repeat if necessary.
- Leave MOSO® Bamboo X-treme® to dry for approx. 24 hours. The material must be completely dry before finish can be applied.

snow conditions

- Use a broom or soft bristle brush for snow. For heavier snows use a hard plastic snow shovel with rounded corners to prevent scratches to your deck. Never use a power piece of equipment to remove snow.
- Always shovel along the length of the boards never across.
- **Never use rock salt or other de-icers.** Use only products that are pet safe, urea free and salt free.

application of exterior finish

- After you have purchased and installed our unfinished decking and choose to apply a finish, please let the deck boards acclimate to the environment 6-8 weeks.
- **It is NOT advised to finish the decking immediately after installation.** Please clean your deck with a deck cleaner (Messmer's), allow to dry completely and apply your finish.
- Only oil based exterior finishes are recommended. MOSO recommends:
 - www.messmers.com/messmers-uv-plus-deck-stain
- Apply in dry weather only. Avoid direct sunlight and high temperatures.
- Follow all the manufacturer's instructions. However, it is important to know that **MOSO Bamboo X-treme® is not porous and will not absorb finish like wood. Apply finish and wipe-off within 15 minutes to avoid over-application.** This may be contrary to finish manufacturer's instructions.
- If you still have questions please call the customer service number provided.
- It is virtually impossible to permanently damage Bamboo X-treme when cleaning or finishing. Most finishes will not penetrate deeply into the material and can be sanded off if the result is undesired.

Gradual greying of MOSO® Bamboo X-treme® over time:

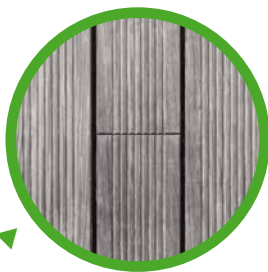
new, non-weathered decking



after 3 months of weathering



after 36 months of weathering



Surface of MOSO® Bamboo X-treme® with different maintenance and cleaning scenarios:

weathered, dirty decking



weathered, cleaned decking



refinished decking



Check out the information of Messmer's at: www.messmers.com/messmers-uv-plus-deck-stain



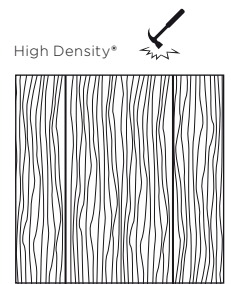
Bamboo balcony
Philadelphia, United States of America

Bamboo balcony Deck tiles aged 12 months in full sun on rooftop application - Philadelphia, United States of America



MOSO® Bamboo X-treme® Outdoor 2x2 Deck Tile

MOSO® Bamboo X-treme® 2x2 Deck Tile is a solid, Thermo-Density® decking tile, made from compressed bamboo strips. A special, thermal modification process at 392°F (200°C) provides MOSO® Bamboo X-treme® the highest durability class possible in the appropriate European standard (see technical characteristics below) and increases the hardness and stability. These deck tiles are very suitable for commercial or residential rooftop terraces and plazas. Also on uneven surfaces (including cracked concrete patios) these tiles perform very well.



Product Code	Surface	Edges	Weight (lbs)	Size	Dimensions (")
BO-DKTL38-8S-UF	Smooth	Macro Bevel	23.1	2 x 2	1-1/2 x 23-7/8 x 23-7/8

installation summary

- Install a suitable, fixed, stable and durable pedestal system. MOSO® Bamboo X-treme® Outdoor 2x2 Deck Tiles are not built for one specific pedestal manufacture. Please consult manufactures specification before installation.
- To make sure the tiles are always well leveled, place a biscuit/disc (in the corner notch of the tile) to connect the tile with the pedestal.
- The recommended maximum spacing for tile pedestals is 24" on center - please consult local building codes.
- Unfinished Bamboo X-treme® Deck Tiles can be left to weather naturally or can be finished 3-4 months after installation.
- Maintenance and cleaning: Routinely remove debris from your deck tiles such as leaves, grass clippings by sweeping (with a stiff bristle brush) or blowing them off. Power washing of the material is not recommended use only a regular hose and a stiff bristle brush to remove stuck on debris. In order to maintain its original color, you must coat the deck tiles 3-4 months after installation with a penetrating oil finish.
- For further info: please see the maintenance instructions.
- Store in a cool and dry place away from direct sunlight, and protected from weather influences, dirt and dust.

technical characteristics and certifications

- Density: +/- 71.79 lbs/ft³
- Dimensional stability:
length: + 0.1%; width + 0.9% (24 hours in water 68°F)
- Resistance to Indentation - Average Brinell Hardness: ± 1,350 psi (EN 1534)
- Reaction to fire: Class Bfl-s1 (EN 13501-1)
- Flame spread index: Flame spread 25, Smoke developed 45 Class A (ASTM E84) / CAN/ULC S102 (WUI approved)
- Slip resistance - new material: USRV 55 (Dry), USRV 29 (Wet), USRV 91 (Dry), USRV 42 (Wet) (Pendulum friction test - CEN/TS 16165 Annex C - CEN/TS 15676) / R 10 (Shod ramp test - CEN/TS 16165 Annex B - DIN 51130) / Class C (Barefoot ramp test - CEN/TS 16165 Annex A - DIN 51097)
- Slip resistance - weathered material: USRV 100 (Dry) (CEN/TS 16165 Annex C) / R 11 (CEN/TS 16165 Annex B - DIN 51130)
- Thermal emittance: 0.81 (ASTM C1371)¹⁾
- Solar Reflectance (SR): 0.32 (ASTM C1549)¹⁾
- Solar Reflectance Index (SRI): Low 27, Medium 30, High 33 (ASTM E1980)¹⁾
- Modulus of Elasticity: 13565 MPa (EN 408, equivalent ASTM D 198)
- Bending strength: 54.4 MPa (EN 408, equivalent ASTM D 198)
- Biological durability: Class 1 (EN 350 / CEN/TS 15083-2), simulated graveyard test / Class 1 (EN 350 / CEN/TS 15083-1)
- Effectiveness against Blue Stain: Class 0 (EN 152)
- Use Class: Class 4 (EN 335)
- CO₂ neutral: LCA report TU Delft (ISO 14040/44) (www.moso-bamboo.com/lca)
- Environmental Product Declaration - EPD (EN 15804) (www.moso-bamboo.com/epd)
- Contribution LEED BD+C - v4: MR 1, MR 2, EQ 2, SS 7 v2009: MR 6, MR 7 (FSC*), IEQ 4.3, IEQ 4.4
- Contribution BREEAM: MAT 1, MAT 5 (HD)
- Warranty: 25 years

¹⁾ Tested on 3 years weathered MOSO® Bamboo X-treme®.

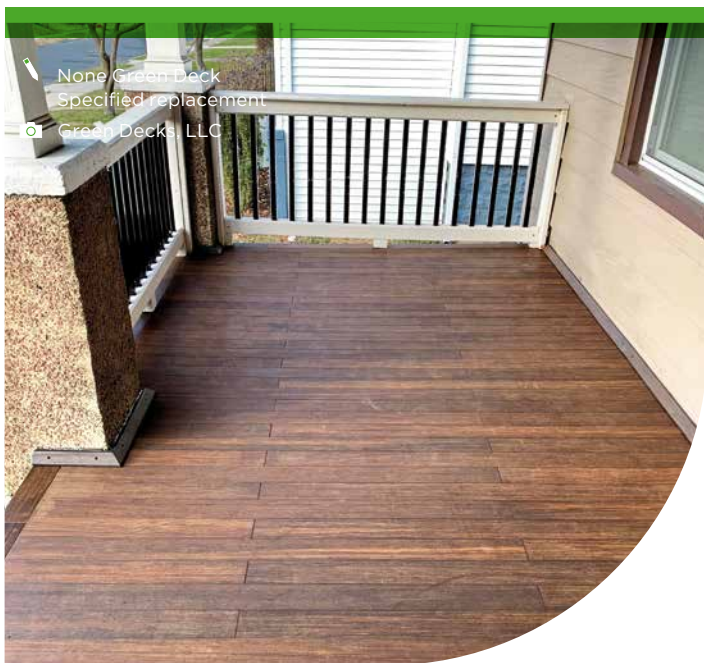


breem



MOSO®

Private Residence United States of America



None Green Deck
Specified replacement
Green Decks, LLC

Private Residence
(250 sqft) Collingswood, New Jersey, United States of America

Private Residence
United States of America



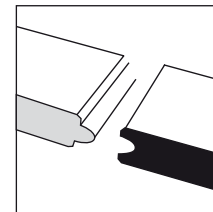
MOSO®

MOSO® Bamboo X-treme® Porch flooring or Soffit

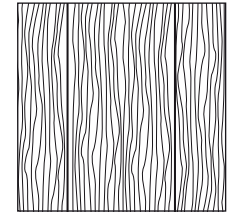
MOSO® Bamboo X-treme® Board is a solid, Thermo-Density® board, made from compressed bamboo strips. A special, thermal modification process at 392°F (200°C) provides MOSO® Bamboo X-treme® the highest durability class possible in the appropriate European standard (see technical characteristics below) and increases the hardness and stability. These floor boards are very suitable for covered outdoor areas. They come unfinished and thanks to the tongue and groove system the installation is fast and easy. MOSO® Bamboo X-treme® Boards can be used for porch flooring, covered ceilings and soffits.



End-matched



High Density*



Product Code	Surface	Edge groove	End-matched	Edges	Size	Dimensions (")
BO-POR-18-96-UF	Smooth	Both sides	Yes	Macro Bevel	1 x 4 x 6	3/4 x 3 7/8 x 72

installation summary

- Install a suitable, fixed, stable and durable joist system.
- The recommended maximum span for 18 mm is 24" on center - but your local building codes may be less.
- Each porch board must be installed flush and tight against the joist system with a fastener insert through the tongue and into the joist. Using 18 gauge flooring cleat nailer or countersunk trim head screws.
- Fasteners should be attached at 45 degrees from vertical into the groove on the tongue and into the porch board and joist below. Fasteners should be no larger than 18 gauge flooring cleats.
- The first board and final boards should be face screwed to the joist system using stainless steel screws, predrilled and countersunk.
- Use a 1-2% slope and ensure good ventilation.
- Unfinished Bamboo X-treme® Boards can be left to weather naturally or can be finished 3-4 months after installation.
- When not applying outdoor oil regularly, the deck will acquire a grey color tone and the typical bamboo grain structure will become less visible.
- Maintenance and cleaning: Routinely remove debris from your porch flooring such as leaves, grass clippings by seeping (with a stiff bristle brush) or blowing them off. Power washing of the material is not recommended use only a regular hose and a stiff bristle brush to remove stuck on debris.
- For further info: please see the maintenance instructions.
- Store in a cool and dry place away from direct sunlight, and protected from weather influences, dirt and dust.
- Full version available at ► www.moso-bamboo.com/x-treme/porch-flooring

technical characteristics and certifications

- Density: +/- 71.79 lbs/ft³
- Dimensional stability:
length: + 0.1%; width + 0.9% (24 hours in water 68°F)
- Resistance to Indentation - Average Brinell Hardness: ± 1,350 psi (EN 1534)
- Reaction to fire: Class Bfl-s1 (EN 13501-1)
- Flame spread index: Flame spread 25, Smoke developed 45
Class A (ASTM E84) / CAN/ULC S102 (WUI approved)
- Slip resistance - new material: USRV 55 (Dry), USRV 29 (Wet), USRV 91 (Dry),
USRV 42 (Wet) (Pendulum friction test - CEN/TS 16165 Annex C - CEN/TS 15676) /
R 10 (Shod ramp test - CEN/TS 16165 Annex B - DIN 51130) / Class C (Barefoot ramp test -
CEN/TS 16165 Annex A - DIN 51097)
- Slip resistance - weathered material: USRV 100 (Dry) (CEN/TS 16165 Annex C) /
R 11 (CEN/TS 16165 Annex B - DIN 51130)
- Thermal emittance: 0.81 (ASTM C1371)¹⁾
- Solar Reflectance (SR): 0.32 (ASTM C1549)¹⁾
- Solar Reflectance Index (SRI): Low 27, Medium 30, High 33 (ASTM E1980)¹⁾
- Modulus of Elasticity: 13565 MPa (EN 408, equivalent ASTM D 198)
- Bending strength: 54.4 MPa (EN 408, equivalent ASTM D 198)
- Biological durability: Class 1 (EN 350 / CEN/TS 15083-2), simulated graveyard test /
Class 1 (EN 350 / CEN/TS 15083-1)
- Effectiveness against Blue Stain: Class 0 (EN 152)
- Use Class: Class 4 (EN 335)
- CO₂ neutral: LCA report TU Delft (ISO 14040/44) (www.moso-bamboo.com/lca)
- Environmental Product Declaration - EPD (EN 15804) (www.moso-bamboo.com/epd)
- Contribution LEED BD+C - v4: MR 1, MR 2, MR 3 (FSC®), EQ 2, SS 7
v2009: MR 6, MR 7 (FSC®), IEQ 4.3, IEQ 4.4
- Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5 (HD)
- Warranty: 25 years

¹⁾ Tested on 3 years weathered MOSO® Bamboo X-treme®.



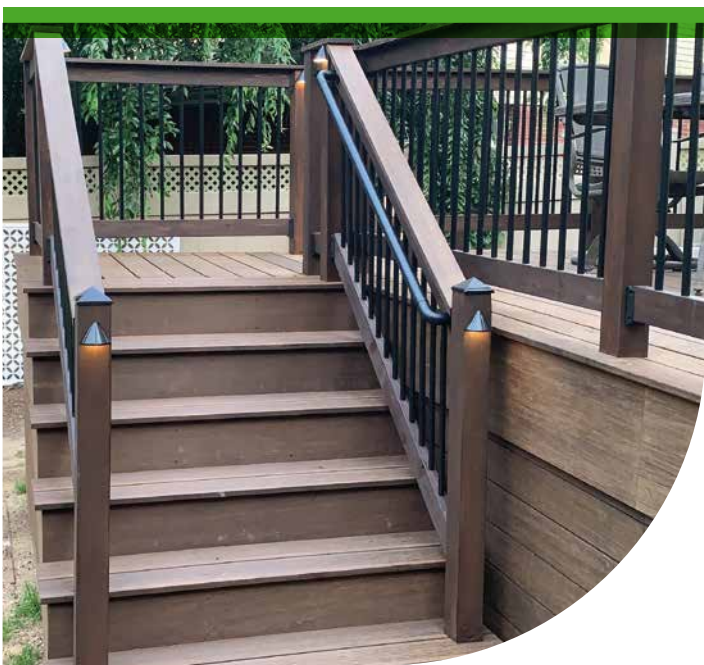
breeam

Check out the full installation instruction ►



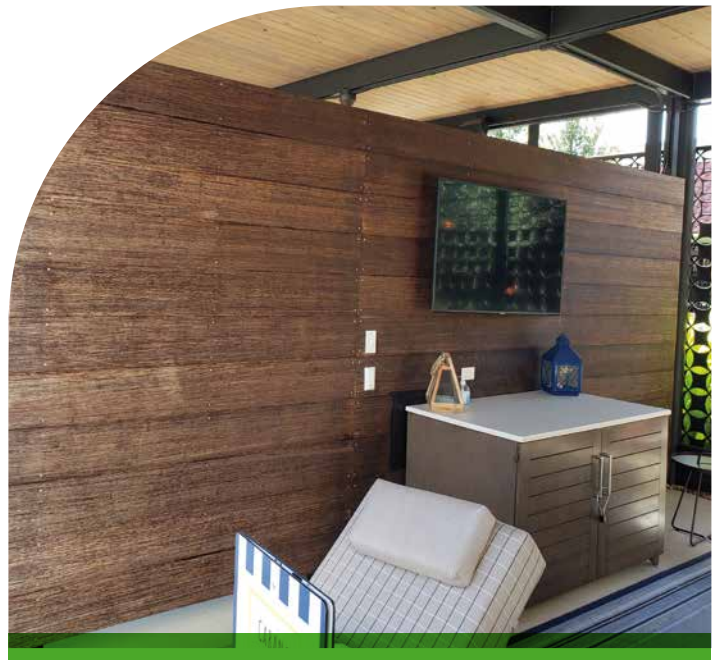


Private Residence (250 sqft) West Chester, Pennsylvania, United States of America



Private Residence (400 sqft) Southern New Jersey, United States of America

Omni Los-Colinas Hotel
Irving, Texas, United States of America



MOSO® Bamboo X-treme® Soffit, Trim & Fascia Boards

MOSO® Bamboo X-treme® Soffit, Trim and Fascia Boards are solid, Thermo-Density® boards, made from compressed bamboo strips. A special, thermal modification process at 392°F (200°C) provides MOSO® Bamboo X-treme® the highest durability class possible in the appropriate European standard (see technical characteristics below) and increases the hardness and stability. MOSO® Bamboo X-treme® Soffit, Trim and Fascia Boards provide the final accents of your deck or siding projects. The Bamboo X-treme® Boards also present a more stable and sustainable option compared to more expensive PVC.

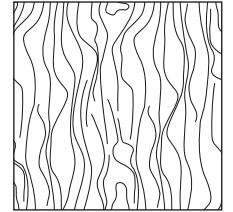
1 x 4 x 6
Eased Edge



1 x 8 x 6
Square Edge



High Density*



Product Code	Material	Surface	Length edges	End edges	Size	Dimensions (")
BO-DK20-GO-96UF	Thermo Density® bamboo	Smooth	Eased Edge	Square ends	1 x 4 x 6	3/4 x 3 7/8 x 72
BO-LUM20-205	Thermo Density® bamboo	Smooth	Square Edge	Square ends	1 x 8 x 6	3/4 x 8 x 73 1/4
BO-LUM20-305	Thermo Density® bamboo	Smooth	Square Edge	Square ends	1 x 12 x 6	3/4 x 12 x 73-1/4

technical characteristics and certifications

- Density: +/- 71.79 lbs/ft³
 - Dimensional stability:
length: + 0.1%; width + 0.9% (24 hours in water 68°F)
 - Resistance to Indentation - Average Brinell Hardness: ±65.5 psi (EN 1534)
 - Reaction to fire: Class B-s1-d0 (EN 13501-1)¹⁾
 - Flame spread index: Flame spread 25, Smoke developed 45
Class A (ASTM E84) / CAN/ULC S102 (WUI approved)
 - Thermal emittance: 0.81 (ASTM C1371)²⁾
 - Solar Reflectance (SR): 0.32 (ASTM C1549)²⁾
 - Solar Reflectance Index (SRI): Low 27, Medium 30, High 33 (ASTM E1980)²⁾
 - Modulus of Elasticity: 13565 MPa (EN 408, equivalent ASTM D 198)
 - Bending strength: 54.4 MPa (EN 408, equivalent ASTM D 198)
 - Biological durability: Class 1 (EN 350 / CEN/TS 15083-2), simulated graveyard test / Class 1 (EN 350 / CEN/TS 15083-1)
 - Effectiveness against Blue Stain: Class 0 (EN 152)
 - Use Class: Class 4 (EN 335)
 - CO₂ neutral: LCA report TU Delft (ISO 14040/44) (www.moso-bamboo.com/lca)
 - Environmental Product Declaration - EPD (EN 15804) (www.moso-bamboo.com/epd)
 - Contribution LEED BD+C - v4: MR 1, MR 2, MR 3 (FSC®), EQ 2, SS 7 v2009: MR 6, MR 7 (FSC®)
 - Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5 (HD)
 - Warranty: 25 years
- ¹⁾ Tested on 18 mm thickness, without gaps between boards, with ventilation space behind boards.
²⁾ Tested on 3 years weathered MOSO® Bamboo X-treme®.



breeam



Adam Bacher Photography

Union Station (8,000 sqft) Vancouver, United States of America



John Leonfflu

Private Residence Del Mar
(2,474 sqft) California, United States of America

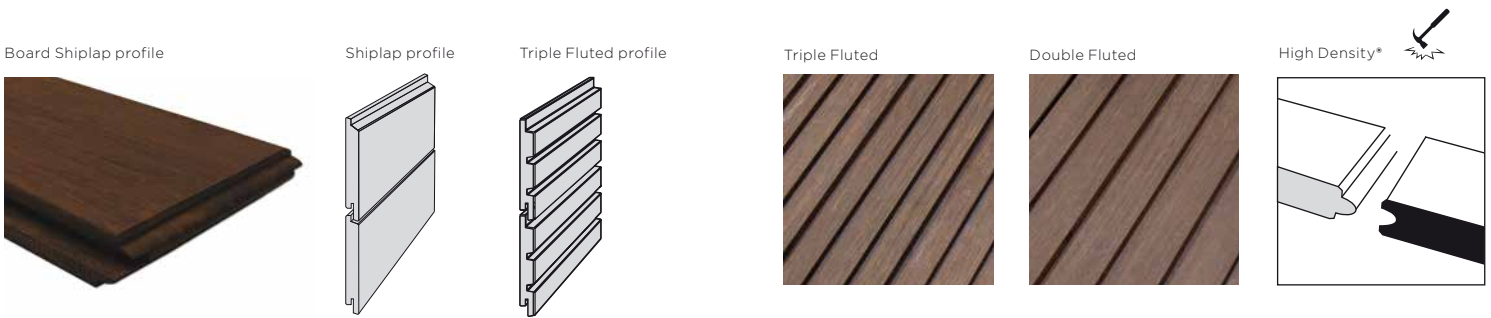
Private Residence Kjeller
Kjeller, Norway



Hover Imagery

MOSO® Bamboo X-treme® Outdoor Rainscreen & Accent Siding

MOSO® Bamboo X-treme® Siding is a solid, Thermo-Density® exterior board, made from compressed bamboo strips. A special, thermal modification process at 392°F (200°C) provides MOSO® Bamboo X-treme® the highest durability class possible in the appropriate European standard, increases the stability and density, and consequently the hardness. Furthermore, contrary to other wood products, this product achieves fire resistance Class A (ASTM E84) without impregnation with expensive and eco-damaging fire retardants. MOSO® Bamboo X-treme® siding is available as a shiplap profile and can be installed with fasteners or screws. Bamboo X-treme® will weather over time to a silver patina.



Product Code	Profile	Surface	End-matched	Overlap groove	Edges	Size	Dimensions (")	Actual width (")
BO-SID18-137	Shiplap	Smooth	Yes	R3	Square Edge	1 x 6 x 6	3/4 X 5-3/8 X 73	5 3/8
BO-SID18-178	Shiplap	Smooth	Yes	R3	Square Edge	1 x 8 x 6	3/4 x 7 x 73	7
BO-DTHT520G	Triple Fluted	Smooth	Yes	R1	Eased Edge	1 x 6 x 6	3/4 x 5-3/8 (5) x 73	5 3/8
BO-DTHT520G-2	Double Fluted	Smooth	Yes	R1	Eased Edge	1 x 6 x 6	3/4 x 5-3/8 (5) x 73	5 3/8

installation summary

- Apply a waterproof membrane to the wall and screw vertical battens onto that.
- Each board should be fixed on at least 3 battens: so the maximum centre-to-centre distance between the battens / beams is 24".
- Install the first, bottom, row of MOSO® Fasteners on the battens and place the first row of boards onto them or face screw.
- Place the second row of fasteners/boards and continue like this with the whole surface.
- Don't forget to make sure you float a fastener at the end-match when floating the joint. The fastener will provide added support and maintain proper spacing between the boards.
- Don't forget to make sure that when installing the Bamboo X-treme® Siding vertically you put a mechanical fastener through the bottom of the board for extra support.
- For further info: please see the installation / maintenance instructions.
- MOSO warrants the bamboo material and the mounting materials (fastener/screw) it supplies but does not warrant the connection with other materials (such as sub frame joists/battens). It is the responsibility of the installer to make sure the used screw matches such materials during the full lifetime of the product.
- Store in a cool and dry place away from direct sunlight, and protected from weather influences, dirt and dust.
- Full version available at ▶ www.moso-bamboo.com/x-treme/siding
- More information about the MOSO® Fasteners (CLIPSCREW-BX08) at ▶ www.moso-bamboo.com/x-treme/accessories



technical characteristics and certifications

- Density: +/- 71.79 lbs/ft³
- Dimensional stability: length: + 0.1%; width + 0.9% (24 hours in water 68°F)
- Resistance to Indentation - Average Brinell Hardness: ±65.5 psi (EN 1534)
- Reaction to fire: Class B-s1-d0 (EN 13501-1)¹⁾
- Flame spread index: Flame spread 25, Smoke developed 45 Class A (ASTM E84) / CAN/ULC S102 (WU approved)
- Thermal emittance: 0.81 (ASTM C1371)²⁾
- Solar Reflectance (SR): 0.32 (ASTM C1549)²⁾
- Solar Reflectance Index (SRI): Low 27, Medium 30, High 33 (ASTM E1980)²⁾
- Modulus of Elasticity: 13565 MPa (EN 408, equivalent ASTM D 198)
- Bending strength: 54.4 MPa (EN 408, equivalent ASTM D 198)
- Biological durability: Class 1 (EN 350 / CEN/TS 15083-2), simulated graveyard test / Class 1 (EN 350 / CEN/TS 15083-1)
- Effectiveness against Blue Stain: Class 0 (EN 152)
- Use Class: Class 4 (EN 335)
- CO₂ neutral: LCA report TU Delft (ISO 14040/44) (www.moso-bamboo.com/lca)
- Environmental Product Declaration - EPD (EN 15804) (www.moso-bamboo.com/epd)
- Contribution LEED BD+C - v4: MR 1, MR 2, MR 3 (FSC*), EQ 2, SS 7 v2009: MR 6, MR 7 (FSC*)
- Contribution BREEAM: MAT 1, MAT 3 (FSC*), MAT 5 (HD)
- Warranty: 25 years

¹⁾ Tested on 18 mm thickness, without gaps between boards, with ventilation space behind boards.
²⁾ Tested on 3 years weathered MOSO® Bamboo X-treme®.



breeam

Check out the full installation instruction ▶





MOSO

MOSO Office (377 sqft) Barcelona, Spain



Santos Moreira architect
Pedro Machado

Private Residence Paços de Ferreira
(808 sqft) Paços de Ferreira, Portugal

The Versailles Apartment Complex
(4,500 sqft) Philadelphia, United States of America



Ebuilt Incorporated
Ryan Paul Marchese

MOSO® Bamboo X-treme® Fencing

MOSO® Bamboo X-treme® fence boards are solid, Thermo-Density® exterior boards, made from compressed bamboo strips. A special, unique thermal modification process at 392°F (200°C) provides MOSO® Bamboo X-treme® with the highest durability class possible in the appropriate European standards and increases the hardness and stability. The fence boards, equipped with a tongue/groove connection, are mounted between posts with U-profiles (not provided by MOSO®). Like any untreated tropical hardwood species, when exposed to outdoor conditions, MOSO® Bamboo X-treme® will turn grey over time creating a very natural look.



Product Code	Surface	Edge groove	End-matched	Overlap groove	Edges	Size	Dimensions (")	Actual width (")
BO-DTHT312TG-UF	Smooth	Macro Bevel	No	N/A	Square Edge	1 x 6	3/4 x 5 3/8 x 72	5 1/8

technical characteristics and certifications

- Density: +/- 71.79 lbs/ft³
 - Dimensional stability:
length: + 0.1%; width + 0.9% (24 hours in water 68°F)
 - Resistance to Indentation - Average Brinell Hardness: ±65.5 psi (EN 1534)
 - Reaction to fire: Class B-s1-d0 (EN 13501-1)¹⁾
 - Flame spread index: Flame spread 25, Smoke developed 45
Class A (ASTM E84) / CAN/ULC S102 (WUI approved)
 - Thermal emittance: 0.81 (ASTM C1371)²⁾
 - Solar Reflectance (SR): 0.32 (ASTM C1549)²⁾
 - Solar Reflectance Index (SRI): Low 27, Medium 30, High 33 (ASTM E1980)²⁾
 - Modulus of Elasticity: 13565 MPa (EN 408, equivalent ASTM D 198)
 - Bending strength: 54.4 MPa (EN 408, equivalent ASTM D 198)
 - Biological durability: Class 1 (EN 350 / CEN/TS 15083-2), simulated graveyard test / Class 1 (EN 350 / CEN/TS 15083-1)
 - Effectiveness against Blue Stain: Class 0 (EN 152)
 - Use Class: Class 4 (EN 335)
 - CO₂ neutral: LCA report TU Delft (ISO 14040/44) (www.moso-bamboo.com/lca)
 - Environmental Product Declaration - EPD (EN 15804) (www.moso-bamboo.com/epd)
 - Contribution LEED BD+C - v4: MR 1, MR 2, MR 3 (FSC®), EQ 2, SS 7 v2009: MR 6, MR 7 (FSC®)
 - Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5 (HD)
 - Warranty: 25 years
- ¹⁾ Tested on 18 mm thickness, without gaps between boards, with ventilation space behind boards.
²⁾ Tested on 3 years weathered MOSO® Bamboo X-treme®.

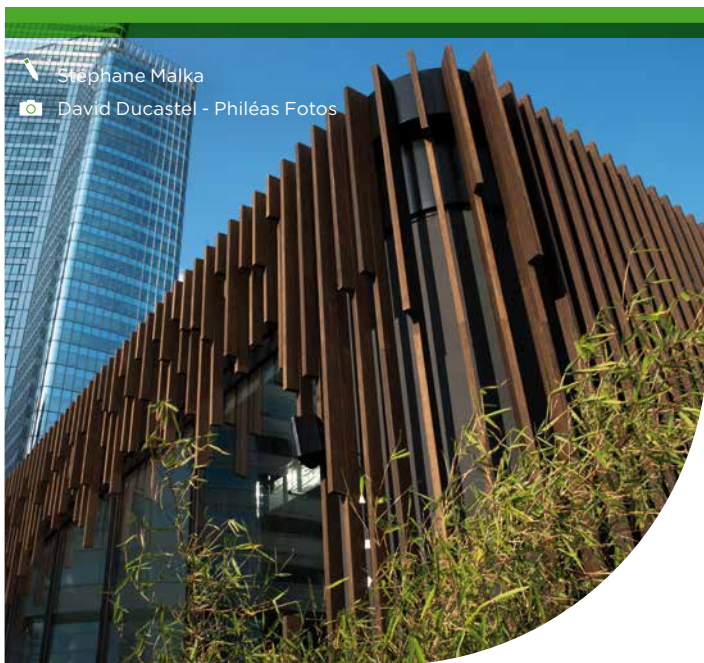


bream



 Donker Design
 FURNS
 FURNS (Sij van Duijnhoven)

Haarlerbergpark for ING Amsterdam, the Netherlands



 Stéphane Malka
 David Ducastel - Philéas Fotos

Oxygen event complex
(18,000 lf) La Défense Paris, France

Renovation City Centre Leverkusen
(8,611 lf) Leverkusen, Germany



 VETZ
 MOSO®

MOSO® Bamboo X-treme® 2x Beams

MOSO® Bamboo X-treme® 2x is a solid, Thermo-Density® beam, made from compressed bamboo strips. A special, thermal modification process at 392°F (200°C) provides MOSO® Bamboo X-treme® the highest durability class possible in the appropriate European standard (see technical characteristics below) and increases the hardness and stability. These products are used in a variety of applications such as outdoor furniture and vertical facade systems.

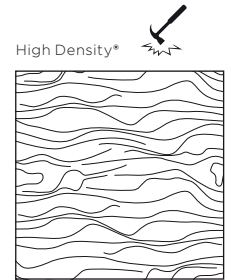
BO-DTHT2173-2
2 x 2
1 1/2 x 1 1/2 x 79"



BO-DTHT2175-2
2 x 4
1 1/2 x 3 1/2 x 79"



BO-LUM40-152
2 x 6
1 1/2 x 6 x 73 1/4"



Product Code	Profile	Surface	Size	Dimensions (")
BO-DTHT2173-2	S4S E4E	Smooth	2 x 2	1 1/2 x 1 1/2 x 79
BO-DTHT2175-2	S4S E4E	Smooth	2 x 4	1 1/2 x 3 1/2 x 79
BO-LUM40-152	S4S E4E	Smooth	2 x 6	1 1/2 x 6 x 73 1/4

technical characteristics and certifications

- Density: +/- 71.79 lbs/ft³
- Dimensional stability:
length: + 0.1%; width: + 0.9% (24 hours in water 68°F)
- Resistance to Indentation - Average Brinell Hardness: ±65.5 psi (EN 1534)
- Reaction to fire: Class B-s1-d0 (EN 13501-1)¹⁾
- Flame spread index: Flame spread 25, Smoke developed 45
Class A (ASTM E84) / CAN/ULC S102 (WUI approved)
- Thermal emittance: 0.81 (ASTM C1371)²⁾
- Solar Reflectance (SR): 0.32 (ASTM C1549)²⁾
- Solar Reflectance Index (SRI): Low 27, Medium 30, High 33 (ASTM E1980)²⁾
- Modulus of Elasticity: 13656 MPa (EN 408, equivalent ASTM D 198)
- Breaking strength: 54.4 MPa (EN 408, equivalent ASTM D 198)
- Biological durability: Class 1 (EN 350 / CEN/TS 15083-2), simulated graveyard test / Class 1 (EN 350 / CEN/TS 15083-1)
- Effectiveness against Blue Stain: Class 0 (EN 152)
- Use Class: Class 4 (EN 335)
- CO2 neutral: LCA report TU Delft (ISO 14040/44) (www.moso.eu/lca)
- Environmental Product Declaration - EPD (EN 15804) (www.moso.eu/epd)
- Contribution LEED BD+C - v4: MR 1, MR 2, MR 3 (FSC®), SS 7 v2009: MR 6, MR 7 (FSC®)
- Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5 (HD)
- Warranty: 10 years

¹⁾ Tested on 18 mm thickness, without gaps between boards, with ventilation space behind boards.

²⁾ Tested on 3 years weathered MOSO® Bamboo X-treme®.



breem

MOSO® Bamboo X-treme®

test results



The excellent performance of MOSO® Bamboo X-treme® has been extensively tested by acknowledged research institutes. Find a summary of the most important test results below. Full reports are available upon request. **Only MOSO® can ensure you have the original, unique Bamboo X-treme® product.** Copies of the original do not offer the same quality or level of durability, dimensional stability and ecology. With a look-alike product, there is a large risk of claims after installation. Always ask for the original, certified MOSO® Bamboo X-treme® products!



Durability of MOSO Bamboo X-treme, *Heat Treated Strand Woven Bamboo*: resistance against soft-rotting micro fungi according to CEN/TS 15083-2

Report code: 17.0083-C

Date: 29 March 2017

Page: 8/14

According to EN 350, the durability class is determined based on the x-value. To calculate the x-value, the median mass loss of the test species is compared to the median mass loss of the Beech or Pine references. Hardwoods are compared to Beech, Softwoods are compared to Pine. As Bamboo is neither softwood nor hardwood a comparison is made with both reference wood species Pine sapwood and Beech.

Based on the mass loss found and the comparison to Beech and Pine, the tested MOSO Bamboo X-treme, *Heat Treated Strand Woven Bamboo*, can be classified in durability class 1 when using the method described in EN 350.

MOSO Bamboo X-treme, *Heat Treated Strand Woven Bamboo*, performs comparable to Azobé and Merbau. Little variance is found between the different boards.

durability

CEN/TS 15083-2
(ENV 807) / EN 350

class 1



Durability of het treated strand woven bamboo: resistance against degradation by Basidiomycetes according to EN 350 and CEN/TS 15083-1

Report code: 17.0083-B

Date: 29 March 2017

Page: 8/14

According to EN 350, the durability class is calculated based on the mass loss obtained with the fungus resulting in the highest median mass loss. For all fungi the mass loss is less than 5%. This implies that, when using the EN 350 to determine the durability, MOSO Bamboo X-treme, *Heat Treated Strand Woven Bamboo* can be classified in durability class 1.

durability

CEN/TS 15083-1
(EN 113) / EN 350

class 1



Resistance of *Heat Treated Strand Woven Bamboo* against blue staining fungi

Report code: 9.061-E

8 September, 2009

Page: 10/10

4 Conclusion

On behalf of Moso International BV an EN 152 blue stain test was performed on Heat Treated Strand Woven bamboo. UV- weathering was used as preconditioning of part of the samples. The combination of UV light and water spray resulted in strong discoloration of the surfaces of both the bamboo samples and the Pine sapwood reference samples.

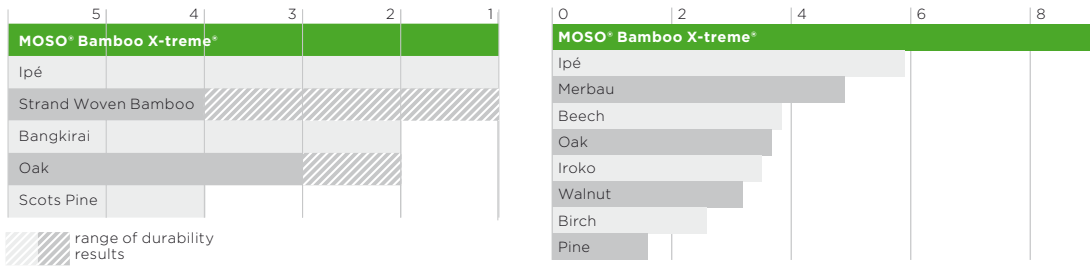
Neither on the weathered nor on the original Bamboo samples discoloration of the blue stain fungi or the hyphae of the blue stain fungi could be observed. As a result it can be concluded that the susceptibility of this Heat Treated Strand Woven Bamboo towards blue stain is very low.

resistance against blue staining fungi

EN 152

class 0

harder and more durable than almost any other hardwood



durability class

EN 350
(CEN/TS 15083-2 / CEN/TS 15083-1)

class 1

average brinell hardness

(EN 1534)

±9.5 kg/mm²

use/risk class

EN 335

class 4

Classification Durability Class

Use Class	1. very durable	2. durable	3. moderately durable	4. slightly durable	5. not durable
1 interior	○	○	○	○	○
2 moist interior	○	○	○	(○)	(○)
3 exterior, above ground	○	○	(○)	(○)-(x)	(○)-(x)
4 ground contact / fresh water	○	(○)	(x)	x	x
5 salt water	★	(x)	(x)	x	x

- Natural durability sufficient.
- (○) Natural durability normally sufficient, but for certain end uses treatment may be advisable.
- (○)-(x) Natural durability may be sufficient, but depending on end use, preservative treatment may be necessary.
- (x) Preservative treatment is normally advisable.
- x Preservative treatment necessary.
- ★ Natural durability of Bamboo X-treme® not tested in salt water.

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with clause 12 of EN 13501-1:2007+A1:2009.

4.2 Classification

The product, **BAMBOO X-TREME™ DECKING**, in relation to its reaction to fire behaviour is classified:

B_{s1}

The additional classification in relation to smoke production is:

s1

Reaction to fire classification: B_{s1} - s1

Efectis

Efectis Nederland BV
2013-Efectis-PR02274(Rev.2)
February 2020
MOSO International BV

CLASSIFICATION

4.2 CLASSIFICATION

The product, **MOSO® Bamboo X-treme**, in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s1

The additional classification in relation to flaming droplets / particles is:

d0

Reaction to fire classification: B - s1, d0

fire resistance

EN 13501-1
decking, porch flooring
class Bfl-s1
siding, fencing, soffit, trim
and fascia boards, 2x beams
class B-s1-d0

Classification ASTM E84

Classification	Flame Spread Index	Smoke Developed Index
A	0 - 25	0 - 450
B	26 - 75	0 - 450
C	76 - 200	0 - 450

reaction to fire

FSI 25 / SDI 45
ASTM E84
class A
WUI approved
CAN/ULC-S102

carbon footprint

ISO 14040/44

CO₂ neutral

Carbon Footprint (CO ₂ eq) per kg final product					Eco-costs (€) per kg final product			
PRODUCTION	END OF LIFE	CO ₂	CO ₂	CO ₂	PRODUCTION	END OF LIFE	ECO-COSTS	ECO-COSTS
CO ₂ footprint CO ₂ eq/kg	CO ₂ credit CO ₂ eq/kg	Storage CO ₂ eq/kg	Total CO ₂ eq/kg	Neutral Y / N	Eco-costs Euro/kg	Eco-costs Euro/kg	CO ₂ storage Euro/kg	Total Euro/kg
1.193	-0.704	-0.607	-0.118	Yes	0.356	-0.132	-0.082	0.142

The life cycle and the carbon footprint of MOSO products are evaluated according to ISO 14040/44. For more information: www.moso.eu/lca
The full report is available on request.

Confidential - This information is the property of MOSO International BV, Zwaag, the Netherlands. Any use or reproduction without permission will be prosecuted.

Author:
Dr. Vogtländer J.G. (2014). Life Cycle Assessment and Carbon Sequestration - Update 2014 - Bamboo products of Moso International. Associate professor - Design for Sustainability - Delft University of Technology.

the sustainability of Bamboo X-treme®

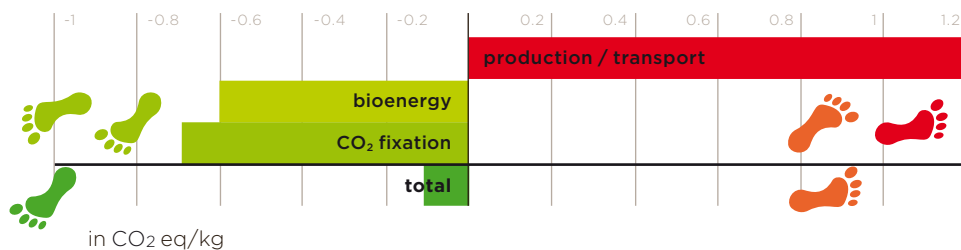
MOSO® Bamboo X-treme® offers clear sustainable advantages and is even proven to be CO₂ neutral during the product lifespan! The inclusion of Bamboo X-treme® contributes to a higher LEED, BREEAM and Green Star certification score for green building projects. That's one of the reasons why you can find MOSO® Bamboo X-treme® and other MOSO® products in many sustainable reference projects all over the world.

carbon footprint

MOSO® Bamboo X-treme®: CO₂ neutral during the product lifespan*

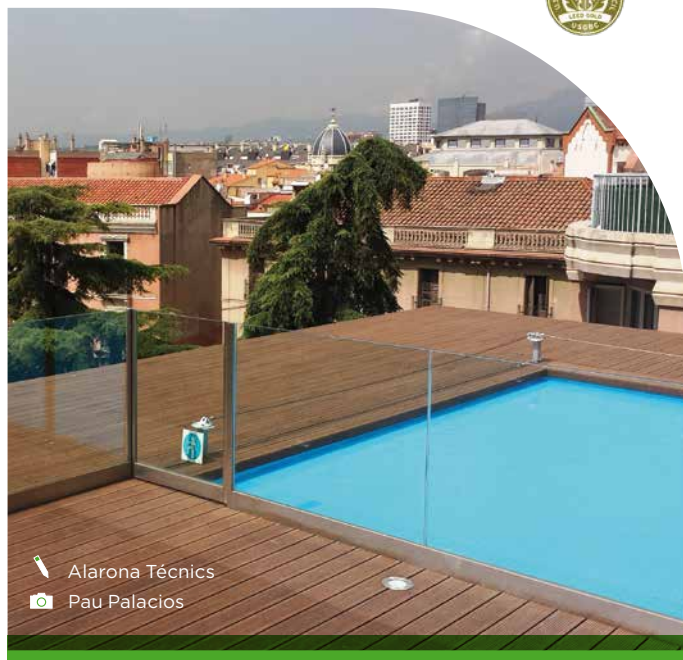
MOSO® has conducted an LCA and carbon footprint study together with Delft University of Technology (TU Delft) and INBAR. The report (www.moso-bamboo.com/lca) concludes that all assessed MOSO® Products (all solid bamboo flooring, decking, beams, panels and veneer) are CO₂ negative during the product lifespan ("cradle till grave"). In this result the high growth rate of Moso bamboo has not even been taken into account, and can be perceived as additional environmental benefit. The environmental impact of MOSO® Products, excluding carbon sequestration effect, was also published in an official Environmental Product Declaration (EPD) following EN 15804 (www.moso-bamboo.com/epd).

*) This includes the CO₂ (biogenic carbon - EN 16449) stored in the product.



Museo Del Gas

(7,500 sqft) Sabadell, Barcelona, Spain

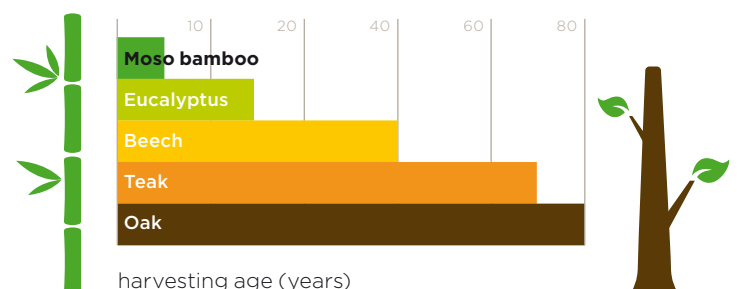


Alarona Tècnics
Pau Palacios

unsurpassed growing speed

bamboo: the fastest growing plant in the world

Because of the fast growth, Moso bamboo is managed as an agricultural crop: the annual harvest of the 4 to 5-year-old stems - compared to 60-80 years for tropical hardwood! - provides a steady annual income to farmers and stimulates the bamboo plant to reproduce even faster. Therefore, by default, no deforestation occurs with production of MOSO® Bamboo X-treme®, while large amounts of CO₂ are captured in the bamboo forests and products (www.inbar.int/understanding-bamboos-climate-change-potential).



The average 400sf

MOSO® Bamboo

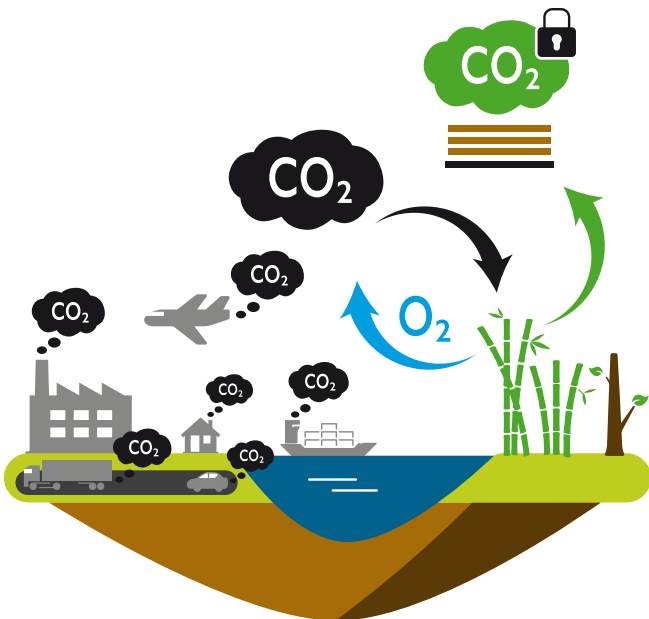
X-treme® Deck

captures 2,600lbs
of carbon dioxide

carbon storage in bamboo

biobased materials act as CO₂ sinks

Through photosynthesis, plants absorb carbon dioxide (CO₂) and convert it into glucose (building block for biomass) and oxygen. The CO₂ is stored in the material for the lifetime of the product, and even longer if the product is recycled into new, durable products. Due to the fast growth - and related high yields - Moso bamboo locks far more CO₂ in durable products compared to wood species. The locked amount of CO₂ can be calculated rather simply by looking at the density of the material and taking into account the biobased content. For example, Bamboo X-treme® locks almost 104 ft³ CO₂ of bamboo, which is the equivalent of the CO₂ emissions of 8699 miles driven by a mid-range car.

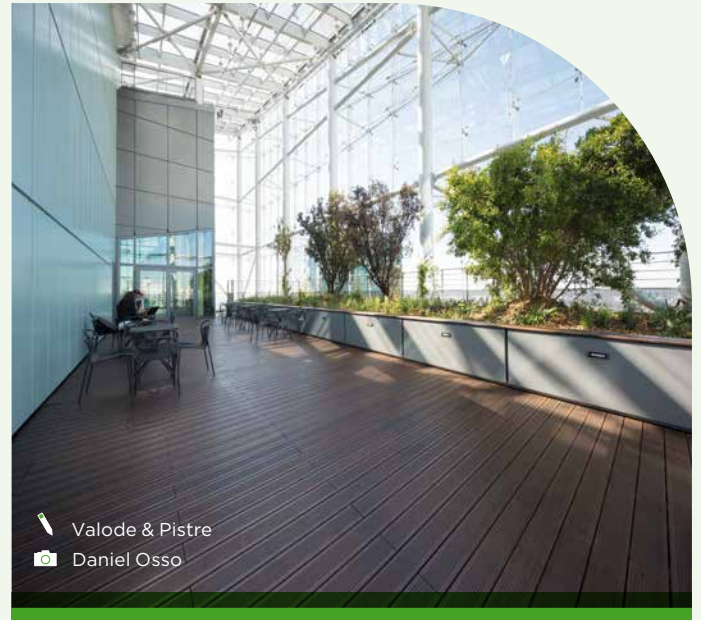


Check out how bamboo can save the world at:
www.moso-bamboo.com/sustainability



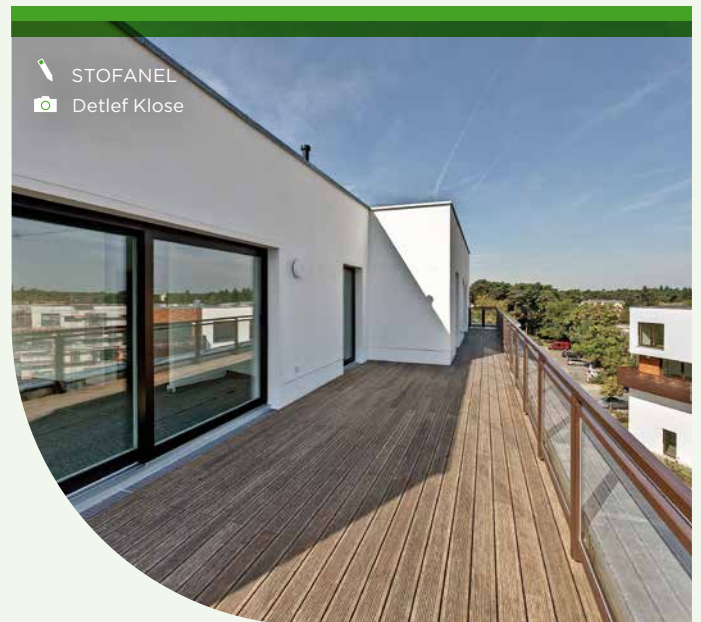
Tour Saint Gobain - La Défense

LEED / BREEAM / HQE - (10,764 sqft) Paris, France



Valode & Pistre
Daniel Osso

Contributes to
the leading green
building certification
programs worldwide



STOFANEL
Detlef Klose



Fünf Morgen Dahlem Urban Village

(18,837 sqft) Berlin, Germany

MOSO®

Bamboo X-treme®

user information

appearance and color

MOSO® Bamboo X-treme® is a natural product, which can vary in color, grain and appearance. Color will change over time depending on the maintenance schedule. The boards have a brown to dark brown color when installed, which turns into a lighter caramel color several weeks after installation. Without further maintenance the color gets greyish relatively fast (similar to most other wood species).

Unfinished MOSO® Bamboo X-treme® can be left to weather naturally or can be finished 3-4 months after installation. If a brown color is preferred, maintenance should be done annually with Messmer's MOSO® Bamboo Finish Oil. For further details see the installation/maintenance instructions.

MOSO® Bamboo X-treme® shows similarity to other hardwoods in grain and structure. The characteristic bamboo nodes however can still be recognised and provide the product with a special and lively look.

low E window statement

Low-emissivity glass is designed to prevent heat gain inside the house but reflecting sunlight outward. This reflective property can result in excessive heat build on the surface of your Bamboo X-treme® deck. The properties that Low- E glass employs to prevent passive heat gain within a structure can result in unusual heat build-up on exterior surfaces. When the sunlight is reflected and concentrated it can harm a range of building materials that include doors, windows, siding, trim and decking. Damage caused to these products can include melting, sagging, warping, discoloration, increased expansion and contraction and accelerated weathering.

normal phenomena

Micro-fissures on the surface and on the ends of the boards can arise from different drying characteristics of the surface and cross cut ends. This does not affect the stability or durability of the board. The surface side of the boards will become rougher over time and can form (small) splinters as a result of continuous water absorption and desorption due to dry and wet weather periods. Dimensional change or cupping of the boards can occur after installation. These phenomena are normal for most hardwood species and MOSO® Bamboo X-treme®.

After installation, there might be some bleeding or leaching of color from the bamboo material when it gets wet, e.g. when it rains. This possible bleeding is typical for wood and will disappear over time. The brownish liquid can easily be cleaned from the Bamboo X-treme® material, however controlled water drainage and prevention of splash water is required to prevent any discoloration of surrounding or underlying building components.

Water absorption can lead to a limited degree of grain raise. This can be mostly visible on a new deck, during and after rainfall, and will disappear when the deck is dry again. This phenomenon will occur less over time. This type of deformation of the surface is not considered to be a defect of the material.

snow condition



wet condition



dry condition



Private Residence Solana Beach low clearance decking installed near a cliff edge by the sea - (325 sqft) California, USA



Fraser Decks & Patio Covers
Reily Imagery

Endless possibilities with
MOSO® Bamboo X-treme®



Showcase Marketing
Rob Turner Studios

Candlewood Lake Private Residence decking installed for a marine dock with interesting design elements - (592 sqft) Ohio, USA

Since 2008 over 55 million square feet of decking and siding installed in more than 60 countries

Fraser Decks & Patio Covers
Hover Imagery

High Bluff Ridge

(1,500 sqft) San Diego, CA, United States of America

Public Elementary School "IKC" photo taken 5 years after installation - (3445 sqft) Amsterdam, The Netherlands



MVSA Architects
Lior Teitler



Luc Richard

Riberach Hotel photo taken 8 years after installation (18,000 sqft) Bélesta, France

Private Residence Candlewood Lake

(592 sqft) Ohio, United States of America



Water Authority Limburg

(6,500 sqft) Roermond, the Netherlands



Puku Ridge Safari Lodge

(13,993 ft) Zambia



MOSO® Bamboo X-treme® :

More than 55 million square feet of decking and siding installed around the world!



check out the **MOSO® Bamboo X-treme®** movies about maintenance and hardness at:

www.moso-bamboo.com/youtube/minutes

North America:

Moso North America Ltd.

PO Box 793, 1741 Valley Forge Road
Worcester, PA 19490
United States of America
T: +1 855 343 8444
info@moso-bamboo.com

Headquarters:

Moso International B.V.

Adam Smithweg 2
1689 ZW Zwaag
The Netherlands
T +31 229 265 732
info@moso.eu

Spain, France, Portugal, North Africa,
Latin America and Middle East:

Moso Europe S.L.U.

C/ Pau Claris, 83 - Principal 2ª
08010 Barcelona
Spain
T +34 93 574 9610
contact@moso.eu

Sub-Saharan Africa:

Moso Africa Pty. Ltd.

7 Glosderry Road Kenilworth
7708 Cape Town
South Africa
T +27 2167 11214
contact@moso-bamboo.co.za

Gulf Cooperation Council
(GCC) Countries:

Moso Middle East LLC

Al Jafra-B, Ras Al Khor Industrial 1
P.O. Box: 384421, Dubai
United Arab Emirates
T: +971 4 258 9337
contact@moso.ae

Italy:

Moso Italia S.R.L

Via Antonio Locatelli 86
20853 Biassono (MB)
Italy
T +39 39 900 5440
mosoitalia@moso.eu

www.moso-bamboo.com



Mastering
bamboo