MOSO® Bamboo X-treme® outdoor products

certified 100% proven
durable - stable - sustainable

WARRANTY 25 YEARS

© Reily Imagery / Fraser Decks And Patio Covers
bamboo: the fastest growing plant in the world

**certified**
- durable & sustainable
  - Class 1
  - EN350
  - Warranty Neutral
- fire resistant
  - Class A
  - WUI
  - B2-s1

**proven**
- Since 2008 over 35 million sqft installed, in more than 60 countries.

**complete range**
- decking
- siding
- 1x4 T&G fascia/trim boards
- 2x beams
- accessories

**high stability:**
end-match system

**WARRANTY**
- 25 years
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 **decking**, **siding**, **1x4 T&G**, **fascia/trim boards** and **2x outdoor beams**.

**table of contents**

from bamboo to Bamboo X-treme® 4  
Bamboo X-treme® benefits 5

Bamboo X-treme® outdoor products  
outdoor decking 6  
accessories 8  
installation 9  
outdoor deck tile 10  
user information 12  
outdoor siding 14  
installation 16  
1x4 T&G 18  
installation 20  
fascia/trim board 21  
2x beam 22  

Bamboo X-treme® test results 24
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. Due to its high “sugar”-components, bamboo is more susceptible to being attacked by micro-organisms and fungi. Let us explain how we get from the raw bamboo material to the final product, MOSO® Bamboo X-treme®, through a production process called Thermo-Density®.

stem to strands
After harvesting, the mature Moso bamboo stems are split in a longitudinal direction and the outer skin is removed. The strips are then crushed by using a number of incision rollers which slice gaps into the strips and then (by pressure) grind the strips to loose strands. The untreated strands have a light yellow colour.

thermal treatment
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 colour 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 ribbed surface and grooves along the sides to allow installation with fasteners). As a last step, depending on the customer’s request, the boards can be pre-oiled.

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

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 hardness 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!**

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

harvesting after 5 years
modify the bamboo strands with a heat-treatment 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
finally creating the final profile and surface
Discover the Bamboo X-treme® benefits

**hard & durable**
- The only bamboo decking with Class 1 durability (EN 350) tested following CEN/TS 15083-2 class (simulated graveyard test).
- Use Class 4 in accordance with EN 335.
- 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.
- Far more stable than tropical hardwoods - enabling end-match system.
- Limited tendency to torsion.
- No gap between the end of the boards necessary.
- Only 3/16” expansion space between boards.
- Possible to use pressure treated lumber or metal for joists.

**easy to install**
- Can be installed using hidden fasteners 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, release and replace.
- End-match system simplifies the installation by allowing the joint to float between the joists.

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

**beautiful appearance**
- A beautiful, natural 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 Moso bamboo; With a growing speed of up to 3’ per day the fastest growing plant on earth.
- Ready for harvest after 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 by Technical University Delft according to ISO 14040/44 confirm that MOSO® Bamboo X-treme® is CO₂ neutral over the full life cycle.
- 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, 1x4 T/G) and B-s1-d0 (siding, fascia/trim boards) following EN 13501-1 without use of fire retardants.
- The only bamboo decking and siding products that meet the California fire code requirements for WUI (Wildlife Urban Interface) zones.

*) Bamboo X-treme® Decking, Siding, 1x4 T&G, Fascia/trim boards, Sub frame joist and End-profile.
Wellness Residence Alpenrose
(150 m²) Maurach am Achensee, Austria

Hotel W Barcelona
(1300 m²) Barcelona, Spain

Solana Beach Private Residence
California, United States of America
MOSO® Bamboo X-treme® is a solid, Thermo-Density® decking board, made from compressed bamboo strips. A special, heat-treatment 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 reeded or the smooth surface, and allows for quick installation with MOSO® fasteners. Bamboo X-treme® will weather over time to a silver patina.

installtion summary

(full version available on www.moso-bamboo.com/x-treme)

- Install a suitable, fixed, stable and durable joist system.
- Determine which side of the board will used: the reeded or smooth side.
- Fix the boards on the joist system using hidden fasteners (to be inserted in the grooves of the board) or alternatively with screws (through the surface).
- End matched system can be floated off joist on 16" centers to minimize the waste.
- Use a 1-2% slope and ensure good ventilation is available.
- After installation: make sure proper cleaning and maintenance is done, according to the chosen finish.
- Bamboo X-treme® is available pre-primed and unfinished. In order to maintain the pre-primed look, it is recommended to apply a finish 3–4 months after installation.
- 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 gray color tone and the typical bamboo grain structure will become less visible.
- For further info: please see the installation/maintenance instructions.

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 - 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)
- 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)
- 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)
- Environmental Product Declaration - EPD (EN 15804) (moso.eu/epd)
- FSC®: Products available with FSC® certification on request.
- Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5 (HD)
- Warranty: 25 years

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

Product Code Grooved Finish Edges Surface End-matched Size Dimensions (’’) Dimensions (mm)
BO-DK20-G2-UF Both sides UF B R/S Yes 1 x 6 x 6 3/4 x 5-3/8 x 72 20 x 137 x 1830
BO-DK20-G1-UF One side UF B R/S Yes 1 x 6 x 6 3/4 x 5-3/8 x 72 20 x 137 x 1830
BO-DK20-G2-PP Both sides PP B R/S Yes 1 x 6 x 6 3/4 x 5-3/8 x 72 20 x 137 x 1830
BO-DK20-G1-PP One side PP B R/S Yes 1 x 6 x 6 3/4 x 5-3/8 x 72 20 x 137 x 1830
BO-DK23-G2-UF Both sides UF B R/S Yes 1 x 8 x 6 3/4 x 7 x 72 20 x 178 x 1830

The mark for responsible forestry
FSC® C002063 www.fsc.org
Only the products defined as such, are FSC certified.

EN-NA-2020
**MOSO® Bamboo X-treme® Outdoor Decking accessories**

**MOSO® fasteners and screws**
With these fasteners MOSO® Bamboo X-treme® Decking and Siding can be easily installed. When installed correctly there will be 3/16” gaps between the boards. The fasteners are supplied with matching stainless steel screws (square bit).
For installation on aluminium sub beams (not provided by MOSO®), special screws are available.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Item</th>
<th>Material</th>
<th>Color</th>
<th>Dimensions (&quot;&quot;&quot;)</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLIP-SCREW-BX08</td>
<td>Fastener</td>
<td>Stainless steel A2 (AISI304)</td>
<td>Brown</td>
<td>1 1/6 x 57/64 x 27/64</td>
<td>27 x 22.5 x 10.8</td>
</tr>
<tr>
<td></td>
<td>Screw</td>
<td>Stainless steel A2 (AISI304)</td>
<td>Brown</td>
<td>4.5 x 30</td>
<td></td>
</tr>
<tr>
<td>CLIP-SCREW-BX06</td>
<td>Fastener</td>
<td>Stainless steel A2 (AISI304)</td>
<td>Brown</td>
<td>1 1/6 x 57/64 x 27/64</td>
<td>27 x 22.5 x 10.8</td>
</tr>
<tr>
<td></td>
<td>Screw</td>
<td>Stainless steel A2 (AISI304)</td>
<td>Brown</td>
<td>4.5 x 30</td>
<td></td>
</tr>
</tbody>
</table>

**Usage fastener / sqft**

<table>
<thead>
<tr>
<th>Bamboo X-treme® width on center</th>
<th>16&quot; / 406 mm</th>
<th>18&quot; / 457 mm</th>
<th>24&quot; / 610 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 3/8&quot; / 137 mm</td>
<td>1.85</td>
<td>1.48</td>
<td>1.11</td>
</tr>
<tr>
<td>7&quot; / 178 mm</td>
<td>1.43</td>
<td>1.14</td>
<td>0.86</td>
</tr>
</tbody>
</table>
MOSO® Bamboo X-treme® Outdoor Decking
installation instruction

storage and handling
MOSO® Bamboo X-treme® should be kept out of direct sunlight and should not be exposed to inclement weather before installation.

safety
Drilling, sawing, sanding, and machining MOSO® Bamboo X-treme® generates dust. Avoid inhaling dust by wearing a dust mask. Contact MOSO® for MSDS information.

required tools
• Drill
• Drill bits
• Safety glasses
• Power screw gun with ratcheting torque setting
• Chop saw
• MOSO® Bamboo X-treme® can be crosscut with a quality chop saw, using a carbide-tipped blade. Ripping can be done on a standard table saw, using a properly aligned quality fence with a carbide-tipped blade.
• MOSO® Bamboo X-treme® can be routed or planed with high-speed steel or carbide cutters. When required, only sand in the direction of the grain - i.e. belt sander. Never use an orbital sander.

before installation
• Local building codes must always be consulted when building an exterior deck. Most counties require building permits.
• Water logging under the deck must be avoided by preparing a water permeable ground structure. This can be achieved by sand layers and gravel dispersion above.
• Install the decking boards with a slope of 1-2% to enable water to run off the surface. Alternatively, the decking can be installed without a slope, but due to the fact that water stays longer on the surface, it is possible to have more superficial cracks. If the installation is done without slope more cleaning will be required.
• There must be adequate air circulation underneath the deck to prevent cupping and warping of the boards.
• When the surface underneath the decking is not fast drying, there should be at least 4" distance between the decking and the surface underneath the floor.
• In applications where the deck is being built closer to wet ground, a vapor barrier is recommended to prevent water from absorbing into the underside of the material.
• In order to create a stable deck frame, the outsides of the frame have to be connected at regular intervals to the ground/structure below. Alternatively cross bracing can be applied.

the installation spacing
• Keep at least 3/16" expansion space between the boards (in width direction). With MOSO® Bamboo X-treme® fastener installation this is automatically the case.
• Because of the stability of the boards and the shape of the end-match system no expansion space is needed on the end of the boards.

joist span
• The recommended joist span is 18" or 24" on center. If recovering an existing deck on 16" centers, MOSO Bamboo X-treme can be used with its structural end match system.
• Because MOSO® Bamboo X-treme® is end matched there is no need to have all joints join atop joists. End joints can meet or “fall between” the joists with 8" - 8" distance. If you wish a random pattern, the span should be reduced to 12".
• You should stagger your end joints so they do not line up from one row to the next.
• When decking installation is on an angle, or a random pattern is desired, the joist spacing should be 12" centers. Determine the final joist spacing only after talking with local building code officials.

installation with fasteners
• Determine the surface side of the boards (reeded or smooth surface).
• Use the MOSO® Bamboo X-treme® asymmetric fasteners in the following sequence:
  • Press fastener with hooked side in the groove of one board.
  • If using joist material other than traditional softwood, pre-drilling will be required.
  • Mount the screw fully tightening. Always screw vertically to the joist. Apply low torque with slow screwing speed on the drilling machine. Perform some tests for correct torque speed adjustment before full installation.
  • Install the following board by sliding under the waved side of the fasteners.
• Use the MOSO® Bamboo X-treme® fasteners or other suitable fasteners in the following sequence:
  • Press fastener in the groove of one board.
  • In case of hardwood joists: predrill the screw holes.
  • Mount the screw without fully tightening.
  • Install the following board, then tighten the screw.
  • Always screw vertically to the joist. Apply low torque with slow screwing speed on the drilling machine. Perform some tests for correct torque speed adjustment before full installation.
  • When floating the joint between joists, putting a loose clip on both sides of joint can help provide increased stability in the event that the joist move.
  • Only use the included stainless steel decking screws (4.5 x 30 mm).
  • Please watch the installation video www.moso-bamboo.com/x-treme.

number of fasteners needed per sqft

<table>
<thead>
<tr>
<th>X-treme® width</th>
<th>16”</th>
<th>18”</th>
<th>24”</th>
</tr>
</thead>
<tbody>
<tr>
<td>137 mm</td>
<td>1.85</td>
<td>1.48</td>
<td>1.11</td>
</tr>
<tr>
<td>178 mm</td>
<td>1.43</td>
<td>1.14</td>
<td>0.86</td>
</tr>
</tbody>
</table>

screw down installation
• Determine the surface side of the boards: smooth or reeded.
• Pre-drill the screw holes 3/4” from the side of the board. Be sure to predrill with a large enough drill to avoid cracking of the decking.
• We recommend using a countersink bit with a positive stop.
• Screws should be 305 grade stainless steel. Salt water contact may require 316 grade stainless steel, please consult local building codes.
• Always screw both sides (left and right) of the board.
• Use stainless steel decking screws (min 1 5/8” on 3/4” net decking).

maintenance
• MOSO® Bamboo X-treme® is a natural product, which varies in color, grain and appearance. Color can change fast from dark brown to brown or gray, depending on the maintenance schedule.
• Annual cleaning of your MOSO Bamboo X-treme® decking is recommended. Clean the deck using warm water, mild deck cleaner and soft bristle brush.
• After cleaning and drying, apply a coat of exterior finish.
• We recommend to repeat this (cleaning + applying a coat of exterior finish) at least once per year.
• See additional maintenance instructions at www.moso-bamboo.com/maintenance

additional note
While all due care is taken to ensure the accuracy of the installation instructions, individual circumstances (location, sub-floor and installation procedures) may vary and are beyond the manufacturer’s control. In case of doubt, please consult your local dealer/distributor.

These instructions are subject to change. For the latest version visit www.moso-bamboo.com/x-treme.

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Private Residence
(16000 sqft) Cancun, Mexico

Beach club ‘Klein Ockenburgh’
The Netherlands
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.
- Maintenance and cleaning: Routinely remove debris from your porch flooring such as leaves, grass clippings by seeping (with a soft bristle brush) or blowing them off. Power washing of the material is not recommended use only a regular hose and a gentle bristle brush to remove stuck on debris. In order to maintain its original color, you must coat the floor a few months after installation with a penetrating oil finish.

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 - 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 – 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)
- Solar Reflectance (SR): 0.32 (ASTM C1549)
- Modulus of Elasticity: 13565 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)
- Environmental Product Declaration - EPD (EN 15804) (moso.eu/epd)
- Contribution LEED BD+C - v4: MR 1, MR 2, EQ 2, SS 7
v2009: MR 6, IEQ 4.3, EQ 4.4
- Contribution BREEAM: MAT 1, MAT 5 (HD)
- Warranty: 25 years

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

user information

Gradual graying of MOSO® Bamboo X-treme® over time: new, non-weathered decking (left), after 3 months of weathering (middle) and after 36 months of weathering (right).

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 gray relatively fast. If a brown color is preferred, maintenance should be done annually with an exterior finish with dark pigments (for example teak).

Surface of MOSO® Bamboo X-treme® with different maintenance and cleaning scenarios: weathered, dirty decking (left), weathered, cleaned decking (middle), and refinished decking (right).

maintenance
The surface of decking gets weathered under influence of wind, rain, frost and sunshine (UV). As a result, the surface turns grey, dirty and cracks/ splinters will appear. The best moment for initial maintenance is a few months (3-4) after installation because then the grains have opened up somewhat and allow a better absorption of the finish.
MOSO® Bamboo X-treme® Outdoor Decking

user information

cleaning
• 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.
• Soak MOSO® Bamboo X-treme® with plenty of water. If possible use a garden hose. Do not use a power washer.
• Clean the decking using warm water, mild deck cleaner and a non-metallic stiff bristle brush.
• Scrub the soaked material lengthwise following the bamboo grain until the material appears clean. If the decking has a smooth surface, first scrub under an angle of 45 degrees before scrubbing in the length direction. When using a machine disk this is not necessary. Repeat the cleaning if necessary. Clean the surface carefully with water.
• Leave MOSO® Bamboo X-treme® to dry for approx. 24 hours. The material must be completely dry before refinishing can be done.

snow
• You can use a 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.

swimming pool
As with any natural product used outdoors, there is always a risk of formation of splinters, however splinters from MOSO® Bamboo X-treme® are normally smaller than (tropical) hardwood splinters. A regular application of PPG ProLuxe Cetol DEK around swimming pools is recommended to reduce the formation of splinters.

normal phenomena
Micro-fissures on the surface and on the end of the boards can arise from the different drying characteristics of the surface and cross cut ends. This does not affect the stability or durability of the board. The surface of the boards will get rougher over time and will 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 natural materials and MOSO® Bamboo X-treme®. 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.
Union Station  
(8000 sqft) Vancouver, United States of America

Private Residence Del Mar  
(2474 sqft) California, United States of America

Private Residence Kjeller  
Kjeller, Norway
MOSO® Bamboo X-treme® Outdoor Siding

MOSO® Bamboo X-treme® siding is a solid, Thermo-Density® exterior board, made from compressed bamboo strips. A special, heat-treatment 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.

UF: Unfinished, B: Bevel (also on ends), S: Smooth. Also available with FSC® certification.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Finish</th>
<th>Edges</th>
<th>Surface</th>
<th>End-matched</th>
<th>Size</th>
<th>Dimensions (&quot;)</th>
<th>Actual width (mm)</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BO-SID18-137</td>
<td>UF</td>
<td>B</td>
<td>S</td>
<td>Yes</td>
<td>1 x 6 x 6</td>
<td>3/4 x 5-3/8 x 73</td>
<td>128</td>
<td>18 x 137 x 1850</td>
</tr>
<tr>
<td>BO-SID18-178</td>
<td>UF</td>
<td>B</td>
<td>S</td>
<td>Yes</td>
<td>1 x 8 x 6</td>
<td>3/4 x 7 x 73</td>
<td>173</td>
<td>18 x 178 x 1850</td>
</tr>
</tbody>
</table>

installation summary
(full version available on www.moso-bamboo.com/x-treme)

- Apply a waterproof membrane against 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 fasteners on the battens and place the first row of boards onto them.
- Place the second row of fasteners/boards and continue like this with the whole surface.
- 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 warrantee 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.

technical characteristics and certifications

- Density: +/- 71.79 lbs/ft³
- Dimensional stability:
  - length: + 0.1%; width: + 0.9% (24 hours in water 68°F)
  - Reaction to Indentation - 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
  - Thermal emittance: 0.81 (ASTM C1371) 2)
  - Solar Reflectance (SR): 0.32 (ASTM C1549) 2)
  - Solar Reflectance Index (SRI): Low 25, Medium 30, High 33 (ASTM E1980) 2)
- 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)
- Environmental Product Declaration - EPD (EN 15804) (www.moso.eu/epd)
- FSC*: Products available with FSC® certification on request.
- 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: 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®.
MOSO® Bamboo X-treme® Outdoor Siding
installation instruction

storage and handling
MOSO® Bamboo X-treme® should be kept out of direct sunlight and should not be exposed to inclement weather before installation.

required tools
- Drill
- Drill bits
- A four foot and eight-foot level
- Safety glasses
- Power screw gun with ratcheting torque setting
- Chop saw
- Bamboo X-treme® can be crosscut with a quality chop saw, using a carbide-tipped blade. Ripping can be done on a standard table saw, using a properly aligned quality fence with a carbide-tipped blade.
- Anchorseal-2 Wood Sealer or equivalent is strongly recommended on cross-cut ends to minimize the effects of weather on these exposed ends.
- Bamboo X-treme® can be routed or planed with high-speed steel or carbide cutters. When required, only sand in the direction of the grain—i.e. belt sander. Never use an orbital sander.

safety

please note
- Local building codes must always be consulted. Most counties require building permits. MOSO® Bamboo X-treme® is a natural product, which varies in color, grain and appearance. Color can change fast from dark brown to brown or gray, depending on the maintenance schedule.

before installation
- Bamboo X-treme® siding should not be installed in contact with the ground at grade level, a concrete slab, deck materials or standing water. Allow a minimum of 1”- 2” clearance between the bottom edges of the rain screen and the ground, slab, or deck to allow for adequate ventilation.
- Keep at least 3/16” ventilation space between the boards (in vertical direction).
- Installation with MOSO® Bamboo X-treme® fasteners ensures correct spacing automatically.
- Because of the stability of the boards and the shape of the end-match system no expansion space is needed on the length (board ends).
- We recommend applying end sealer wax on every cut end to prevent water penetration. Failure to end seal the boards at the time of installation may lead to checking which is not covered by the warranty.
- At the edges of the siding, keep a distance of 1/4” – 1/2” from adjacent materials, to allow for sufficient ventilation.
MOSO® Bamboo X-treme® Outdoor Siding installation instruction

the installation

• Apply a waterproof membrane against the wall and screw vertical battens (at least 3/8" thick x 1-7/8" wide / 1x2" (19 mm thick x 60 mm wide) onto that, creating a rigid / flat surface onto which the boards can be fixed.
• Each board should be fixed on at least 3 battens so the maximum centre-to-centre distance in between is 2 ft (616.7 mm / 24").
• The siding boards should be fixed using the MOSO® Asymmetric fasteners (CLIP-SCREW-BX08). Use a screw that is suitable for the material of the chosen batten.
• Make sure the MOSO® Fastener is screwed in the middle of the batten so that it is fully supported.

• **STEP 1 leveling fasteners**
  • Start with the lowest row of fasteners (asymmetric fastener with waved side up) and make sure they are placed fully level (using a spirit level).
  • Avoid overtightening the screws as this can pull the fastener slightly into the wood, making it difficult to place the board onto the fastener.
  • We recommend fixing the end of the boards (end joints) on a batten, using 2 fasteners; one fastener for the ends, top and bottom, will suffice for fastening the end-matched ends of the boards. If a random joint pattern is desired, the distance between the battens should be maximum 300 mm / 12" (see drawing random pattern).

• **STEP 2 install first row of boards**
  • Place the board onto the row of fasteners. The waved side of the fastener enables an easy grip into the groove of the board.
  • Make sure that the fasteners engage deeply enough in the groove so that the boards lay level. Tapping the boards should be done carefully, preferably with a rubber mallet.
  • Install the first row of boards.

• **STEP 3 second row of fasteners**
  • Install the second row of fasteners (asymmetric fastener with the waved side up), pushing them down on the tongue of the first row of boards.

• **STEP 4 install second row of boards**
  • Install the second row of boards in the same way, and continue for the rest of the surface.
  • Check regularly if the boards are level.

• **STEP 5 Continue with the rest**
  • Continue to install the cladding boards in this way to cover the full surface. Make sure you keep the fasteners level and make sure enough ventilation space (5-10 mm) is kept on the edge.

maintenance

The surface sides of the boards will get rougher and silver over time. If you want to keep a darker color, regular maintenance is needed:
• Clean the material with water.
• Let the material dry.
• Apply a coat of exterior penetrating oil for hardwoods.
• We recommend to repeat this (cleaning + reapplying oil) at least once per year.
• See additional maintenance instructions at www.moso-bamboo.com/x-treme

additional note

While all due care is taken to ensure the accuracy of the installation instructions, individual circumstances (location, wall structure/sheathing and installation procedures) may vary and are beyond the manufacturer’s control. In case of doubt, please consult your local dealer/distributor.

MOSO warranties the bamboo material and the mounting materials (fastener/screw) it supplies but does not warrantee the connection with other materials (such as sub frame joist/battens). It is the responsibility of the installer to make sure the used screw matches such materials during the full lifetime of the product.

These instructions are subject to change. For the latest version visit www.moso-bamboo.com

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MOSO® Bamboo X-treme® 1x4 T&G

MOSO® Bamboo X-treme® 1x4 T&G is a solid, Thermo-Density® board, made from compressed bamboo strips. A special, heat-treatment 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 pre-primed and thanks to the tongue and groove system the installation is fast and easy. MOSO® Bamboo X-treme® 1x4 T&G can be used for porch flooring, covered ceilings and soffits.

installation summary

- Install a suitable, fixed, stable and durable joist system.
- The recommended maximum span for 18 mm is 12” 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.
- 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.
- Maintenance and cleaning: Routinely remove debris from your porch flooring such as leaves, grass clippings by sweeping (with a soft bristle brush) or blowing them off. Power washing of the material is not recommended use only a regular hose and a gentle bristle brush to remove stuck on debris. In order to maintain its original color, you must coat the floor a few months after installation with a penetrating oil finish.

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 - Brinell Hardness: ≥ 65.5 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 - 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)
- Solar Reflectance (SR): 0.32 (ASTM C1549) 3)
- 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) (moso.eu/lca)
- Environmental Product Declaration - EPD (EN 15804) (moso.eu/epd)
- FSC®: Products available with FSC® certification on request.
- 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: 25 years

1) Tested on 3 years weathered MOSO® Bamboo X-treme®.
MOSO® Bamboo X-treme® 1x4 T&G
installation instruction

storage and handling
MOSO® Bamboo X-treme® should be kept out of direct sunlight and should not be exposed to inclement weather before installation.

safety
Drilling, sawing, sanding, and machining MOSO® Bamboo X-treme® generates dust. Avoid inhaling dust by wearing a dust mask. Contact MOSO® for MSDS information.

required tools
- Powernail 50P 18 G.A. cleat nailer
- Rubber mallet (comes with the nailer)
- 1 ½” 18 GA. flooring cleats (DO NOT USE 16 GA.) available from Powernail (LI75185) and Grip-Rite (GRFLN175)
- Drill
- Drill bits
- Safety glasses
- Bamboo X-treme® can be routed or planed with high-speed steel or carbide cutters. When required, only sand in the direction of the grain - i.e. belt sander. Never use an orbital sander.

before installation
- Local building codes must always be consulted when building an exterior deck. Most counties require building permits.
- Water logging under the flooring must be avoided by preparing a water permeable ground structure. This can be achieved by a standard table saw, using a properly aligned fence with a carbide-tipped blade.
- Bamboo X-treme® can be routed or planed with high-speed steel or carbide cutters.
- The first board and final boards should be face screwed to the joist system using stainless steel screws, predrilled and countersunk. For concealing the screws use a common plugging system available in the market.

the installation

spacing
- Spacing between the house and product is recommended. An 1/4” space is recommended. When fastening the material to the joists it is not necessary to pound the boards together but rather to insert through the tongue and into the joist. While checking for run out as you move across the floor, the flooring should be installed directly to the joists and not to plywood.
- Because of the stability of the boards and the shape of the end-match system no expansion space is needed on the end of the boards.
- Every cut ends has to be impregnated with board end wax, to prevent water penetration.

joist span
- The recommended maximum span is 12” on center – but your local building codes may be less.
- End joints should meet on top of the joists and be properly supported.
- For best appearance and strength, end joints should be staggered to prevent direct alignment of the ends.
- In case the end joints don’t meet perfectly atop the joist, sistering blocks can be installed on the joists, to allow for room for the cleat.
- When the floor installation is on an angle, the joist spacing must maintain the 12” centers and cover four joists. Determine the final joist spacing only after taking with local building code officials. MOSO will not be responsible for an insufficient load bearing structural design.

installation with hidden fasteners
- We recommend using the Powernail 50P 18-gauge cleat nailer which is widely available as the choice of flooring professionals. Use only 18 gauge cleats as noted above.
- Each floor board must be installed flush and tight against the joist system with a fastener inserted through the tongue and into the joist. Ensure joists are properly aligned on the top; use shims if necessary.
- Fasteners should be attached at 45 degrees from vertical into the end-match system and into the board and joist below. Test the gun using a scrap piece of flooring to ensure that the bottom plate/foot of the nailer is properly positioned to the fastener is installed in the correct place and angle.
- Installers should adjust the pressure to ensure the fastener is placed just below the surface (generally 80 to 90 psi no greater). A setting tool or punch is handy to drive fasteners below the surface if needed.
- Always apply firm pressure to the nailer by holding it in contact with the material, centered over the joist and positioning it at a 90-degree angle to the flooring. The nailer will insert the cleat at a 45-degree angle seating the flooring directly to the joist. Be careful when attaching fasteners close to edge to avoid splitting the end-match system.
- The first board and final boards should be face screwed to the joist system using stainless steel screws, predrilled and countersunk. For concealing the screws use a common plugging system available in the market.

screw down installation
- Pre-drill the screw holes 3/4” from the side of the board. Be sure to predrill with a large enough drill to avoid cracking of the decking.
- We recommend using a countersink bit with a positive stop.
- Screws should be 305 grade stainless steel (salt water contact may require 316 grade stainless steel, please consult local building codes).
- Always screw both sides (left and right) of the board.
- Use stainless steel decking screws (min 1 5/8” on 3/4” net decking).

maintenance
- MOSO® Bamboo X-treme® is a natural product, which varies in color, grain and appearance. Color can change fast from dark brown to brown or gray, depending on the maintenance schedule.
- Annual cleaning of your MOSO Bamboo X-treme® decking is recommended. Clean the deck using warm water, mild deck cleaner and soft bristle brush.
- After cleaning and drying, apply a coat of exterior finish.
- We recommend to repeat this (cleaning + applying a coat of exterior finish) at least once per year.
- See additional maintenance instructions at www.moso-bamboo.com/maintenance

additional note
While all due care is taken to ensure the accuracy of the installation instructions, individual circumstances (location, sub floor and installation procedures) may vary and are beyond the manufacturer’s control. In case of doubt, please consult your local dealer/distributor.

These instructions are subject to change. For the latest version visit www.moso-bamboo.com/x-treme.

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MOSO® Bamboo X-treme® fascia/trim board

MOSO® Bamboo X-treme® fascia/trim boards are solid, Thermo-Density® boards, made from compressed bamboo strips. A special, heat-treatment 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 trim or skirt boards and other applications where a wider board is desired.

**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 - 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)
- 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)
- Environmental Product Declaration - EPD (EN 15804) (www.moso.eu/epd)
- FSC®: Products available with FSC® certification on request.
- Contribution LEED BD+C - v4: MR 1, MR 2, MR 3 (FSC®), SS 7
- 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®.
Oxygen event complex
(18000 ft) La Défense Paris, France

San José de la Sierra building
(46000 ft) Santiago de Chile, Chile

Floriade Outdoor Furniture
Almere, The Netherlands
MOSO® Bamboo X-treme® 2x beam

MOSO® Bamboo X-treme® 2x is a solid, Thermo-Density® beam, made from compressed bamboo strips. A special, heat-treatment 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.

Product Code | Finish | Profile | Size | Dimensions (‘) | Dimensions (mm)
--- | --- | --- | --- | --- | ---
BO-DTHT2173-01 | SC | S4S E4E | 2x2 | 1-1/2 x 1-1/2 x 79 | 2000x40x40
BO-DTHT2171-01 | SC | S4S E4E | 2x3 | 1-1/2 x 3-1/8 x 79 | 2000x80x40
BO-DTHT2175-01 | SC | S4S E4E | 2x4 | 1-1/2 x 3-1/2 x 79 | 2000x90x40

**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 - 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)
- **FSC®:** Products available with FSC® certification on request.
- **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®

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**SC:** Sikkens Cetol
Also available with FSC® certification.
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 hardness and 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!

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**Durability of MOSO Bamboo X-treme, Heat Treated Strand Woven Bamboo:**

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<th>Page:</th>
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<td>17.0083-C</td>
<td>29 March 2017</td>
<td>8/14</td>
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According to EN 350, the durability class is determined based on the x-value. To calculate the x-value, the median mass loss or 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.

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

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<td>8 September, 2009</td>
<td>10/10</td>
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**Conclusion**

On behalf of Moso International B.V 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.
**Carbon Footprint (CO2eq) per kg final product**

<table>
<thead>
<tr>
<th>Use Class</th>
<th>1. very durable</th>
<th>2. durable</th>
<th>3. moderately durable</th>
<th>4. slightly durable</th>
<th>5. not durable</th>
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<tbody>
<tr>
<td>1 interior</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>2 moist interior</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>3 exterior, above ground</td>
<td>o</td>
<td>o</td>
<td>(o)</td>
<td>(o)</td>
<td>(o)</td>
</tr>
<tr>
<td>4 ground contact / fresh water</td>
<td>o</td>
<td>(o)</td>
<td>(x)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>5 salt water</td>
<td>(x)</td>
<td>(x)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

- o: Natural durability sufficient.
- (o): Natural durability normally sufficient, but for certain end uses treatment may be advisable.
- (o)-(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.

**range of durability results**

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**Classification Durability Class**

<table>
<thead>
<tr>
<th>Use Class</th>
<th>Classification ASTM E84</th>
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<tr>
<td>1 interior</td>
<td>Flame Spread Index</td>
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<tr>
<td>26 - 75</td>
<td>0 - 450</td>
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<tr>
<td>76 - 200</td>
<td>0 - 450</td>
</tr>
</tbody>
</table>

**Classification Durability Class**

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

**brinell hardness**

- (EN 1534)
- 9.5 kg/mm²

**use/risk class**

- (EN 350-1)
- class 1

**fire resistance**

- (EN 13501-1)
- decking, 1x4 T&G class Bfl-s1
- siding, fascia/trim boards, 2x beams class B-s1-d0

**reaction to fire**

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

**carbon footprint**

- ISO 14040/44
- CO₂ neutral

**Author:**


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.

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Luxury Frontiers
Lodge Puku Ridge
(14000 sqft) Zambia

photo taken 5 years after installation

Jumbo Head office
(27000 sqft) Schiedam, The Netherlands

photo taken 8 years after installation

Riberach Hotel
(13000 sqft) Bélesta, France
since 2008 over 35 million sqft installed in more than 60 countries
see the ease of installation, cleaning and maintenance of MOSO® Bamboo X-treme® on: www.moso-bamboo.com/x-treme

MOSO® Bamboo X-treme®: the certified & proven bamboo product!

durable & sustainable

fire resistant

end-match system

stable

MOSO® Bamboo X-treme® : the certified & proven bamboo product!