

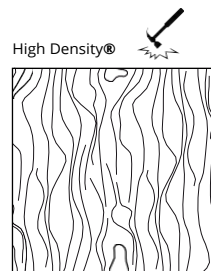
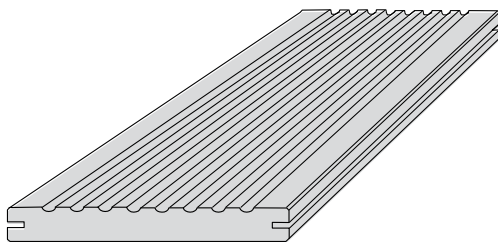
Bamboo X-treme
DECKING
Installation & Care
instructions

As a home owner, builder, designer or architect we understand you want to work with a reliable company that offers not only a solid product base and great price, but also comprehensive warranties, technical and installation support, manufacturing information and thorough product testing.

Plantation is a leader in the field of bamboo building products and is here to assist you with information and support throughout the design and building process. Here are our installation and care instructions for our bamboo X-treme decking:

Installation summary

- Install a suitable, fixed, stable and durable sub-frame - with joists spaced 462.5mm apart, for quick and efficient installation
- Determine which side of the board will be used – the ribbed or flat side
- Fix the boards on the sub-frame using provided clips (to be inserted in the grooves of the board) or alternatively with screws (through the surface)
- Ideally provide a 1-2% slope to assist with water run-off and ensure good ventilation is available around the decking
- After installation, make sure proper cleaning and maintenance is done, according to the chosen finish (if desired)
- Final treatment with water based oil/saturator is recommended, after allowing the deck to weather for a few months
- For further info please see the installation/maintenance instructions below.



Decking boards are 1850 x 137 x 20mm in size, flat on one side & ribbed on other, with grooves on the edges of boards, which the clips fit into for fixing to joists. Bamboo X-treme decking comes in boxes of 5 boards = 1.267m² per box, weighing 32 kgs.

Bamboo X-treme fixing

Fastening clips and screws: With the clips and screws supplied, Plantation Bamboo X-treme decking can be easily installed. When installed correctly the clips provide a 3-4mm gap between the boards. The clips are powder coated stainless steel and come with matching stainless steel screws.



Before installation

Water logging under the decking must be avoided by preparing a water permeable ground structure. This can be achieved by sand layers and gravel dispersion above.

Use cement/stone tiles 40-50 mm thick or pedestals, to support the sub frame. See drawing.

It is suggested to place a root barrier under the decking to prevent weeds growing from under the decking.

Install the decking boards with a slope of 1-2% to enable water to run off the surface.

Ensure good ventilation of the decking by keeping at least 20 mm space at walls and obstacles and avoid closing the terrace on the sides.

When the surface underneath the decking is not fast drying, there should be at least 100mm distance between the decking and the surface underneath.

Use sub frame joists with the minimum size of 40x60mm. Suitable joists are those with the same durability class as the decking; ALU sub frame joists, stable hardwood joists or impregnated pine joists. Avoid direct contact with the earth.

To minimize cutting and wastage, install the bamboo X-treme decking boards on sub frame joists with 462.5mm space between the joists (centre-to-centre). It is recommended to always install the head sides (ends) of the boards exactly on a joist.

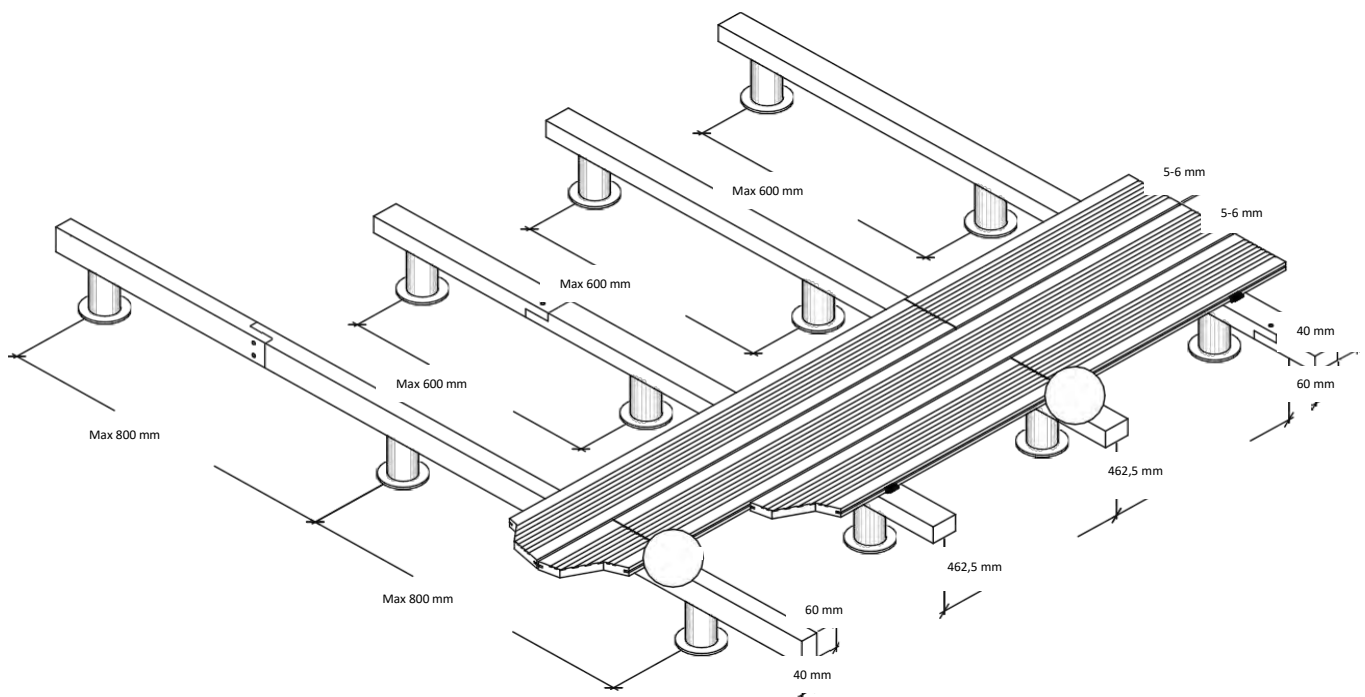
Please note: Bamboo X-treme® decking is a natural forest product, which varies in colour, grain and appearance. Colour can change reasonably quickly from dark brown to caramel to grey colour, depending on the maintenance schedule applied.

Some cracks and splinters on the surface and on the end of the boards may arise from the different drying characteristics of the surface and cross cut ends. Besides this the surface gets rough. This phenomenon is normal for most wood species and is minimized for this product by its patented 'Thermo-Density®' production method. Head side cracks can be further minimized by applying wax on cross end sides of the cut boards, see below.

Any splinters and roughness can be removed by cleaning the surface of the decking with a silicium carbid broom, machine disc, sanding or similar - the surface will become smoother and splinters are removed.

Dimensional change or cupping of the boards can occur after installation, but less so than most deck types. This phenomenon is normal for most wood species, however this is minimised for this product by its patented Thermo-Density® heat treated production method.

When using the flat side of the boards as the surface please note that deformation under influence of climate will likely be more visible. Deformation of the surface is not considered to be a fault of the material, which can normally be improved by sanding or maintenance.



Installation instructions

Bamboo X-treme decking cuts well with a sharp, fine tooth saw-blade (eg 60-80 tooth).

Edging boards: If clean edges are preferred (without grooved edge) for steps, fascia or deck edging, the long edge can be ripped/cut off and sanded, for a crisp, clean look.

The Installation:

- It is recommended to use the supplied clips to keep a 3-4mm expansion space between the boards (in width direction).
- Because of the stability of the boards and the shape of the head-side tongue and groove (at ends), no expansion space is needed on the head-side.
- It is recommended that cut ends of boards be impregnated with suitable timber sealing wax (such as Dryden Wax End Seal or similar wax product), to protect the cut ends.

Installation with clips:

- Determine the surface side of the boards (ribbed or flat surface)
- Pre-drill screw holes in the side of the first board. Be sure to pre-drill with large enough hole to avoid cracking of the decking.
- Screw down one side of first board to the joist
- Insert the clip to other side of board, then screw it to the joist
- Use a plastic/rubber hammer to ensure the clips fit snugly.
- Use approx 16-20 clips per m² – one on each joist.

If using a screw-down installation method:

- Determine the surface side of the boards (ribbed or flat surface)
- Pre-drill the screw holes 20mm from the side of the board. Be sure to pre-drill with a large enough drill to avoid cracking of the decking
- Always screw both sides (left and right) of the board
- Use stainless steel decking screws (ca 5 x 50mm).

Post-installation

First oiling can be performed directly after installation. The best time for the first maintenance is 3-4 months after installation, when the surface is more open than immediately after installation (after the decking has weathered a little).

Additional Note

Whilst 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, therefore, consult Plantation Bamboo.

Storage

Until used, store bamboo X-treme decking in a dry, cool place protected from dust and sunlight.

Maintenance & cleaning

The surface of the decking will weather under the influence of wind, rain, frost and sunshine (UV). As a result, like other timber-like products, the surface will naturally turn a grey/silver colour, get dirty and some surface cracks/splinters may appear. Cleaning and maintenance will keep the decking in good condition and ensure it will last a long time.

Bamboo X-treme decking is pre-oiled, double sided, with WOCA exterior water based decking oil (from Woodcare Denmark).

- Clean the bamboo X-treme decking at least once per year with WOCA Decking Cleaner and silicium carbid broom or similar products, after soaking the decking with plenty of water, to help loosen dirt etc. Depending on climate and use it may be necessary to perform cleaning more than once per year.
- Remove the dirty water residue on the boards with clean water and let the deck dry.
- Apply 1-2 new coats of WOCA Decking Oil (WOCA exterior oil, teak colour (or other preferred colour) – or other high quality water based penetrating decking oil when required (likely to be every 2-3 years or so). When not applying new outdoor oil, the deck will turn a grey colour tone and the typical bamboo wood grain structure will become less visible.
- It is advisable to keep the decking free from dust and dirt as much as possible (clean by broom regularly).

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



Gradual greying of Bamboo X-treme® over time: new, non-weathered decking (left), after 3-6 months of weathering (middle) and after 18 months of weathering (right) - without oiling.

Application of oil (Woca exterior oil)

- Apply in dry weather only. Avoid direct sunlight and high temperatures (please follow the oil manufacturer's details instructions)
- Stir the oil thoroughly before use. Apply an even coat of oil with a brush.
- The oil is cream-coloured when it is wet
- After a few minutes, the material has an oily appearance as the water is evaporating
- Wipe off any excess oil with a clean cotton cloth after no more than 5-10 minutes.
- Take particular care to remove excess oil from joints and grooves.
- Repeat the above process.
- When the material is dry, it may be polished with a polishing pad or polishing machine to ensure an extra hard-wearing surface. It takes 24 to 48 hours for the oil to harden thoroughly, depending on weather conditions and outdoor temperatures. The material should not be exposed to water during this period.
- Due to the risk of self-ignition it is important that oil-wetted cloths are soaked in water and are disposed in a tightly closed container after use.

If other decking oil is preferred, please test this first on your bamboo X-treme decking - then follow the manufacturer's instructions on how best to apply it.

Maintenance of flat side

Please be aware that on the flat surface, irregularities in the surface (eg cracks, splinters etc) may be more visible than on the ribbed surface. Deformation of the surface is not considered to be a defect of the material and is likely to be less than most other decking products.

If regular maintenance with a water based decking oil is performed, the likelihood of cracks or splintering will be reduced.



Technical characteristics & certifications of Bamboo X-treme® Decking

- Density: +/- 1.150 kg/m³
 - Dimensional stability: length: + 0.1 %; width + 0.9% (24 hours in water 20°C)
 - Resistance to Indentation - Brinell Hardness: ≥ 9.5 kg/mm² (EN 1534)
 - Reaction to fire: Class Bfl-s1 (EN 13501-1)
 - Flame Spread Index: Class A (ASTM E84)
 - Slip resistance: USRV55 (Dry), USRV29 (Wet) (CEN/TS 15676) /R 10 (CEN/TS 16165 Annex B - DIN 51130) (Dry)
 - Thermal emittance: 0.81 (ASTM C1371)*
 - Solar Reflectance (SR) : 32 (ASTM C1549)*
 - Solar Reflectance Index (SRI): Low 27, Medium 30, High 33 (ASTM E1980)*
 - Modulus of Elasticity: 13565 N/mm² (mean value - EN408)
 - Breaking Strength: 54.4 N/mm² (characteristic value - EN408)
 - 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 may be available with FSC® certification on request.
 - Contribution LEED BD+C - v4: MR 1, MR 2, MR 3 (FSC®) EQ2 v2009: MR 6, MR 7 (FSC®), IEQ 4.3, IEQ 4.4
 - Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5 (HD)
 - Plantation offers a 25 year warranty on our Plantation Bamboo X-treme® decking (see warranty on website)
- *Tested on 3 years weathered Bamboo X-treme® decking



The mark for responsible forestry FSC®
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