

bamboo x-treme[®] beams

processing & installation
instruction

MOSO® bamboo x-treme® outdoor beams

processing & installation instruction

important

- The MOSO® Bamboo X-treme® outdoor beam is a natural product, and some variation in colour, grain and appearance is normal. Colour can change fast from dark brown to brown or grey, depending on the climatic conditions and maintenance schedule.
- Small cracks and splinters on the surface and on the end of the beams can arise from the different drying characteristics of the surface and cross cut ends. The surface will also get rougher over time. This phenomenon is normal for most wood species and is minimized for this product by its unique 'Thermo-Density®' production method. In bamboo, unlike wood, cracks will usually not break through the material but remain superficial. Cracks can be further minimized by applying a wax or sealer on the ends of the beams.
- Slight dimensional change or cupping of the beams can occur after installation. This phenomenon is normal for most wood species and is minimized for this product by its unique 'Thermo-Density®' production method.

before installation

- Install beams with a minimum gap of 4 mm in between (and to adjacent surfaces) to provide enough ventilation. In case of cladding: fix beams on a frame, which allows at least a 20 mm distance from the wall.
- We highly recommend applying a sealer or wax on every (incl. cut) end to avoid excessive water uptake. Sealer and wax are available as an accessory.
- After profiling appropriate bevelling/sanding should be done to avoid splinters and damage.

processing

The hardness and density of MOSO® Bamboo X-treme® requires predrilling and well sharpened tools.

- **Sawing:** Depending on the volume it is recommended to use a diamond saw blade. Incidental sawing can be done with well sharpened carbide blades.
- **Planing / (CNC) milling:** Depending on the volume it is recommended to use a diamond knife. Incidental planing or milling can be done with well sharpened carbide knives.
- **(pre-)Drilling:** Depending on the size of the holes and the volume it is recommended to use a 3 cutter head diamond drill. Incidental drilling can be done with a well-sharpened 2 cutter head carbide drill. Be sure to pre-drill with a large enough drill to avoid cracking of the material. When installing a sunken screw head, use a countersink drill with a depth stop.
- **Screwing:** Apply low torque with slow screwing speed on the drilling machine. Perform some tests for correct torque and speed adjustment before full installation.
- **Disposal sawdust:** When processing industrially, MOSO® Bamboo X-treme® sawdust cannot be mixed with regular (wood) sawdust.

installation

- When cross cutting beams we recommend to remake a bevel on the ends of the beams.
- MOSO® Bamboo X-treme® beams must be mechanically fixed, using screws/bolts. The fixation instruction depends on the application.
- Use stainless steel A2 screws/bolts.
- For all our standard size beams, except 40x40 mm, we advise a minimum of 2 screws per fixation point. 40x40 mm beams can be fixed with 1 screw per fixation point.
- If the beams are installed with the screws hidden (screwed from backside), make sure to pre-drill with a drill diameter which is 0.8 mm smaller than the screw (for example 4.2 mm if the screw is 5 mm). See figure 1.
- If the beams are installed with the screws going through the bamboo, into a sub structure, make sure the screw hole is at least 0.5 mm bigger than the screw (for example 5.5 mm if the screw is 5 mm). See figure 2.
- Before drilling all holes we advise to do a test.

Horizontal installation

- The number of fixation points depends on the application and applicable load. In general, a 2 meter beam should at least have 3 fixation points (2 on the sides and 1 connection in the middle).
- In case of special load/bending requirements, please consult a structural engineer. Mechanical properties can be found in the MOSO® Bamboo X-treme® datasheet.
- To avoid cracks caused by excessive water uptake, ends of the beams must be treated with a wax/sealer.

Vertical installation

- Beam ends should be angled (min. 15°) to improve water drainage.
- The number of fixation points depends on the application and applicable load. In general, a 2 meter beam should at least have 3 fixation points (2 on the sides and 1 connection in the middle).
- In case of special load/bending requirements, please consult a structural engineer. Mechanical properties can be found in the MOSO® Bamboo X-treme® datasheet.
- To avoid cracks caused by excessive water uptake, ends of the beams must be treated with a sealer.

finish & maintenance

- Bamboo X-treme® beams, supplied with Sikkens Cetol WF771 Ipé, do not require a finish, unless you want to slow down its natural weathering behaviour. The material will turn light grey if you do not apply any finish.
- Avoid the use of aggressive cleaning products for cleaning beams after installation, as it will wear of the finish.
- To avoid color differences and unequal shrink and swell behaviour we recommend to apply a finish on all sides.
- Re-applying depends on the severity of the UV radiation and can vary between 1-2 year.
- In case intensive cleaning/sanding is needed to remove dirt/stains we advise to apply a new layer of Sikkens Cetol WF771 Ipé.
- In case graffiti has to be removed, please use an appropriate graffiti cleaner and follow the instructions of the supplier. For additional information, please contact MOSO®.
- For additional information please refer to the maintenance & cleaning instruction.
- To limit cracks we recommend to treat the ends of the beams with a wax/sealer.
- In order to apply a wax/sealer the ends of the beams should at least be slightly bevelled.
- A pigmented sealer should be used in case the end of the beam is exposed to direct UV-/sunlight. This sealer will give a durable protection against excessive moisture uptake through the ends of the beams.

transport and storage

- MOSO® Bamboo X-treme® beams have to be stored in a dry place without direct sunshine, and protected from weather influences.
- MOSO® Bamboo X-treme® beams have to be transported and stored on pallets, to avoid bending. If joists or supports are used, the distance between should be max. 600 mm.

additional note

Whilst all due care is taken to ensure the accuracy of the installation instructions, individual circumstances (location, sub structure and installation procedures) may vary and are beyond the manufacturer's control. In case of doubt, therefore, consult the distributor.

These instructions are subject to change.
For the latest version go to www.moso.eu/x-treme

Copyright © Nothing from this text may be reproduced without the prior permission in writing from MOSO International BV.

MOSO® bamboo x-treme® outdoor beams processing & installation instruction

Figure 1. Option 1: hidden screw

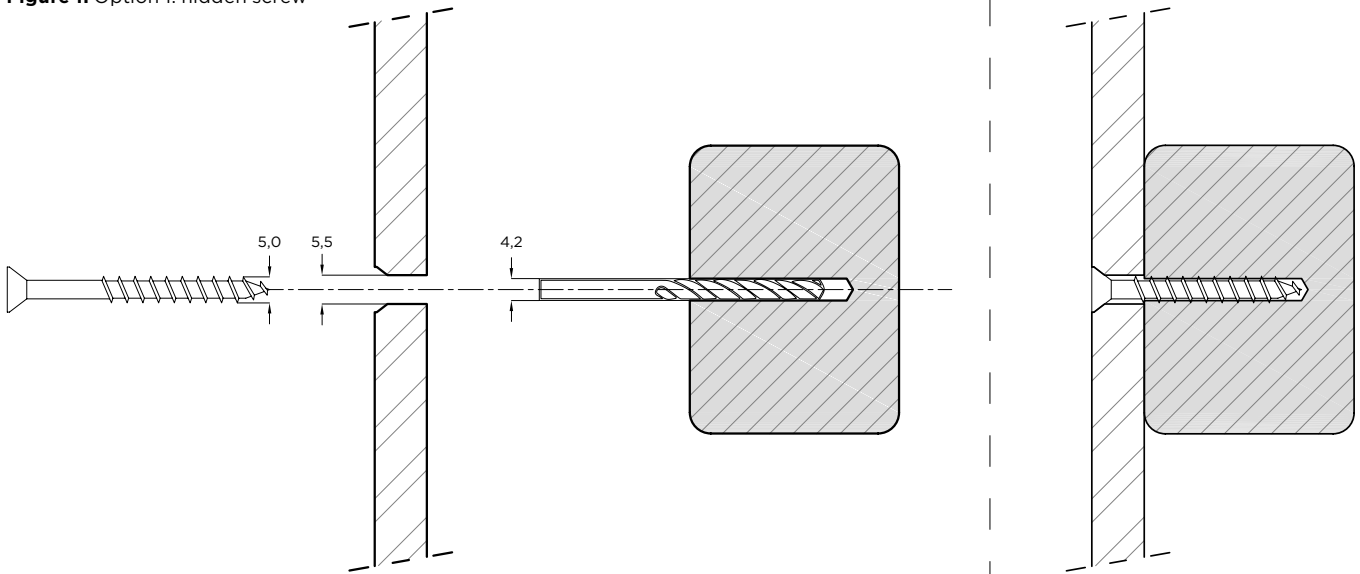


Figure 2. Option 2: screw through bamboo, into sub structure

