

# MOSO<sup>®</sup> Bamboo N-durance<sup>®</sup> Outdoor Beams

processing, installation &  
maintenance instructions

# MOSO® Bamboo N-durance® Outdoor Beams

## processing, installation and maintenance instructions

### important

- The MOSO® Bamboo N-durance® Outdoor Beam is a natural product, which can vary in colour, grain and appearance. Colour can quickly change from caramel to a lighter colour, depending on the climatic conditions and maintenance schedule. Occasionally some colour bleeding can occur.
- Small cracks and splinters on the surface and on the ends 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 minimised for this product by its unique 'Outdoor-Density™' production method. In bamboo, unlike wood, cracks will usually not break through the material but remain superficial. Cracks can be further minimised by applying 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 minimised for this product by its unique 'Outdoor-Density™' production process.

### 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 an end sealer on every cut end to prevent water penetration. A sealer is available from MOSO.
- After profiling appropriate bevelling/sanding should be done to avoid splinters and damage.

### processing

The hardness and density of MOSO® Bamboo N-durance® 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 blade. Incidental planing or milling can be done with well sharpened carbide blades.
- **(pre-)Drilling:** Depending on the size of the holes and the volume it is recommended to use a well-sharpened carbide-metal or diamond-metal drill for drilling hardwood. 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 of sawdust:** When processing industrially, MOSO® Bamboo N-durance® 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 N-durance® Beams must be mechanically fixed, using screws/bolts. The fixing 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 fixing point. 40x40 mm beams can be fixed with 1 screw per fixing 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 fixing points depends on the application and applicable load. In general, a 2 meter beam should at least have 3 fixing points (2 on the ends 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 N-durance® datasheet.
- To avoid cracks caused by excessive water uptake, ends of the beams must be treated with a sealer.
- Yearly maintenance will be required to maintain the surface anti-fungi resistance.

#### Vertical installation

- Beam ends should be angled (min. 15°) to improve water drainage.
- The number of fixing points depends on the application and applicable load. In general, a 2 meter beam should at least have 3 fixing points (2 on the ends 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 N-durance® datasheet.
- To avoid cracks caused by excessive water uptake, ends of the beams must be treated with a sealer.
- Yearly maintenance will be required to maintain the surface anti-fungi resistance.

### finish & maintenance

- Bamboo N-durance® Beams are finished with Sikkens Cetol WF 771 lpe and do not require additional finish directly after installation, unless the surface is processed (machined) or damaged.
- Avoid the use of aggressive cleaning products for cleaning beams after installation, as it will wear off the finish.
- To avoid colour 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 applying Sikkens Cetol WP 567 BPD to prepare the surface for the finish, and apply a new coat of Sikkens Cetol WF771 lpe.
- 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 instructions.
- To limit cracks we recommend treating the ends of the beams with a sealer.
- In order to apply a 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 N-durance® Beams have to be stored in a dry place without direct sunshine, and protected from weather influences.
- MOSO® Bamboo N-durance® 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-bamboo.com/n-durance/beams](http://www.moso-bamboo.com/n-durance/beams)

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Figure 1. Option 1: hidden screw

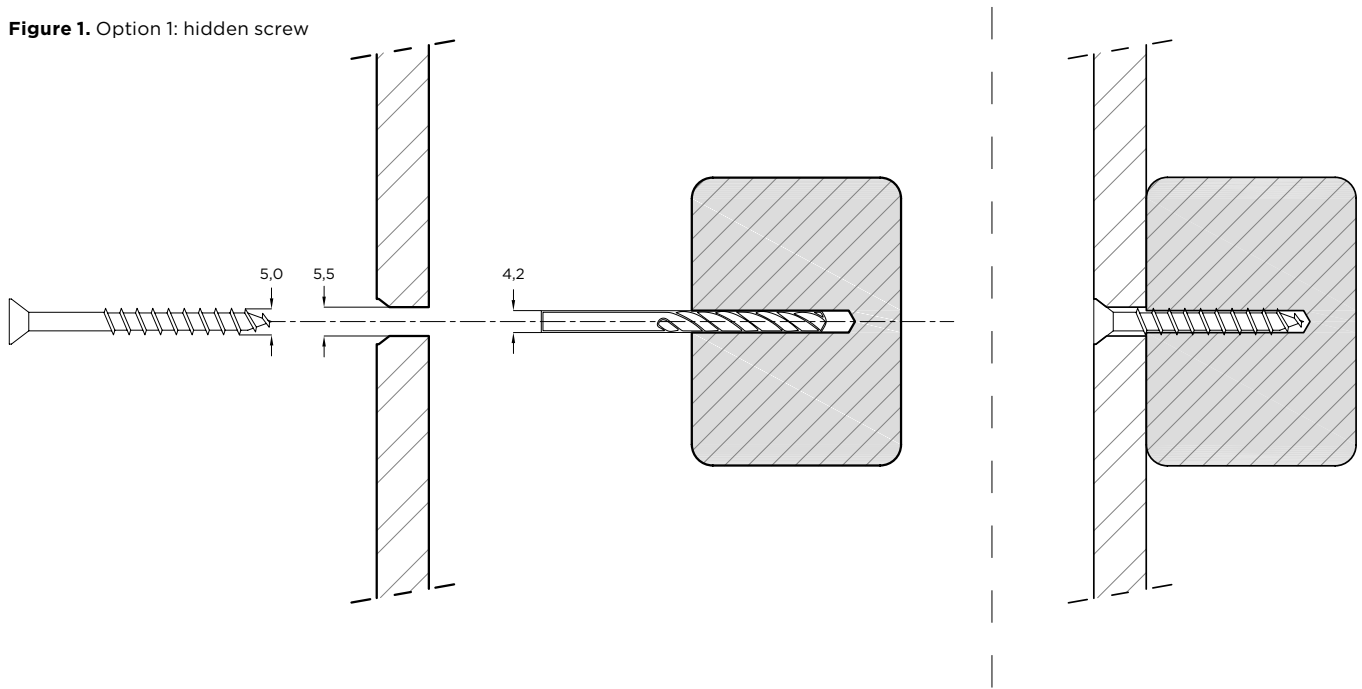


Figure 2. Option 2: screw through bamboo, into sub structure

