MOSO® Bamboo UltraDensity®

certified 100% high traffic durable - hard - stable
MOSO® Bamboo UltraDensity® flooring (for semi-outdoor high traffic areas for installation with MOSO® Bamboo X-treme® sub beams).

MOSO® Bamboo UltraDensity® is a solid bamboo flooring board made from compressed bamboo strips with an Ultra-High Density®, thanks to its unique production method the material is extremely stable, hard and durable and therefore suitable for the toughest conditions: in very high traffic areas and even in semi-outdoor areas (protected from direct rain or sunshine). The boards are available unfinished, with rough sanded faces and have to be finished on site. The boards come with tongue and groove and a micro bevel on all 4 sides. This flooring type has to be installed screwed down on MOSO® Bamboo X-treme® sub beams or alternative sub beams.

The full MOSO® Bamboo UltraDensity® flooring system, to be installed on MOSO® Bamboo X-treme® sub-beams, with peripheral joints and surface finishing with Woca N°1 oil, is intended for installation in premises classified up to U₄P₄E₂C₂ within the loading limits corresponding to this classification. This technical field has been registered at CSTB under the number ATEX 2385.

installation summary (full version available on www.moso.eu/ultradensity)
- Install LFSc (Polyurethane) film as moisture barrier.
- Install a suitable, fixed, stable and durable sub frame, preferably using Bamboo X-treme® sub beams. Distance between the beams: see table “field of use” (page 7).
- Always make sure the end of the board is supported by a joist.
- Maximum length/width of the floor 102 m / 15 m.
- Fix the boards on the sub frame screwing into the tongue of the board at a 45° angle. Always predrill prior to screwing.
- After cleaning and drying, apply an appropriate finish (Woca No1 is advised for high traffic areas).
- After installation: make sure proper cleaning and maintenance is done, according to the chosen finish.
- For further information: please see the installation and maintenance instructions.

unique product is supplied in different thicknesses, from 18 to 38 mm, and formats including floor covering boards and stair panels. The flooring can be installed glued down indoors or fixed on sub beams in covered outdoor areas. Certified by the French Wood institute FCBA and the French Building Institute, this product has received the highest certifications in terms of stability, fire resistance, wear and mark resistance. The mechanical properties allow for intense use with heavy traffic as a solution for railway stations, airports, museums, and any other public area.

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MOSO® bamboo ultradensity® flooring
(for high traffic areas for installation with galue)

MOSO Bamboo UltraDensity® is a solid bamboo flooring board made from compressed bamboo strips with an Ultra-High Density®. With its unique production method the material is extremely stable, hard and therefore suitable for high traffic areas. The boards are available unfinished, and have to be finished on site. The boards come with tongue and groove and a micro bevel on all 4 sides. This flooring type has to be fully glued down.

installation summary (full version available on www.moso.eu/ultradensity)
- Check room climate conditions (room temp. 18-21°C, air humidity 40-65%).
- Check subfloor: it should be flat/clean/stable and should not exceed the maximum allowed moisture content (for example 18% for solid cement).
- The floor should be fully glued.
- Elastic adhesive systems like 1-component Polyurethane or silan type of adhesives are available unfinished, and have to be finished on site. The boards come with tongue and groove and a micro bevel on all 4 sides. This flooring type has to be fully glued down.

technical characteristics and certifications
- Density (product): +/- 150 kg/m³
- Dimensional stability: Results conform to French standard NF S 54008 (ISO 24338)
- Resistance to indentation - Brinell hardness: > 9.5 kg/mm² (EN 1534)
- Reaction to fire: Class B (EN 13501-1)
- Emission VOC: A (ISO 16000-9)
- Resistance to breaking: 95.5 N/mm² (EN 310)
- Breaking strength: 50.30 N/mm² (EN 408)
- Dimensional stability: Results confirm to French standard NF S 54008 (ISO 24338)
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MOSO® bamboo ultradensity® & x-treme® stair panels

The MOSO® Bamboo Stair Panel is a solid bamboo board, made from compressed bamboo strips. The compression process makes MOSO® Bamboo Stair Panels very dense, hard and stable. Both products have been certified and their mechanical properties allow for structural applications such as stairs. MOSO® offers 2 different types of Stair Panels: MOSO® Stair Panel and MOSO® X-treme® Stair Panel. MOSO® UltraDensity® Stair Panel is suitable for semi-outdoor covered areas and indoor applications (Use Class 3 / EN 335). These planks have a warm brown caramel colour. MOSO® X-treme® Stair Panel is suitable for full outdoor use (Use Class 4 / EN 335), thanks to the Thermo-Density® production process. The bamboo strips are heat-treated and compressed. These planks have a dark chocolate colour.

technical characteristics and certifications
- Density: +/- 150 kg/m³
- Dimensional stability: Results confirm to French standard NF S 54008 (ISO 24338)
- Resistance to indentation - Brinell hardness: > 9.5 kg/mm² (EN 1534)
- Reaction to fire: Class B (EN 13501-1)
- Emission VOC: A+ (ISO 16000-9)
- Guarantee: 30 years
- Contribution LEED BD+C - v4: MR 1, MR 2, MR 3 (FSC®), EQ2
- Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5
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MOSO® bamboo x-treme® sub beams

MOSO® Bamboo X-treme® sub beams are solid, High Density® beams, made from compressed bamboo strips. A special, patented Thermo-Density® heat treatment process at 200°C gives MOSO® Bamboo X-treme® the highest durability class possible in the appropriate EU norms and increases the hardness and stability. The sub beams are the most suitable under construction for Bamboo UltraDensity® flooring.

Product Code | Material | Finish | Dimensions (mm)
---|---|---|---
BO-SB150 | Thermo Density® bamboo | Unfinished | 2440x70x40
BO-SB155 | Thermo Density® bamboo | Unfinished | 2440x60x40

- The MOSO® Bamboo X-treme® sub beams can be produced with special profiles on request.

technical characteristics and certifications

- Density: +/- 1150 kg/m³
- Dimensional stability: length: +0.1%; width: +0.9% (24 hours in water 20°C)
- Resistance to indentation: Brinell hardness: ≥8.7 kg/mm² (EN 1534)
- Reaction to fire: Class B1 (EN 1192-03)
- Modulus of Elasticity: ≥5272 N/mm² (EN 408)
- Breaking strength: ≤30 N/mm² (EN 408)
- Biological durability:
  - Class I (EN 350 / CEN/TS 15083-2), simulated graveyard test
  - Class I (EN 350 / CEN/TS 15083-1)
- Effectiveness against Blue Stain: Class 0 (EN 152)
- Use Class: Class 4 (EN 335 / EN 460)
- 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®)
  - v2009: MR 6, MR 7 (FSC®)
- Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5
- Guarantee: 10 years

MOSO® bamboo ultradensity® system

(specially developed for semi-outdoor covered areas)

MOSO® Bamboo UltraDensity® has been certified as part of a full system, including:

- PE (Polyethylene) film on the ground – moisture barrier.
- Sub-beams Bamboo X-treme® installed floating and levelled on the ground.
- The flooring Bamboo UltraDensity® screwed on sub beams using stainless steel decking screws at a 45° angle.
- Pre-drilling is needed and the screws will be inserted in the tongue of the board.
- Boards will be installed using the tongue and groove system on 4 sides.
- Finishing with Woca N1 oil and maintained / cleaned with Woca soap.
- Special joints (Veda) to be used for expansion gaps (required from 100 x 15 m – 1500 m²).
- Special Bamboo UltraDensity® skirting boards are available to ensure the right ventilation between the floor and the sub-surface, more information on request.

MOSO® bamboo ultradensity® field of use

MOSO® Bamboo UltraDensity® flooring for installation on sub beams, with a thickness of 32 or 38 mm, can be installed in most areas, depending on the space between the sub beams.

<table>
<thead>
<tr>
<th>Category of use</th>
<th>Spread load</th>
<th>Concentrated load</th>
<th>Space between sub beams (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Residential</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>A1 - Floors</td>
<td>150</td>
<td>200</td>
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<tr>
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<td>B - Office areas</td>
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<tr>
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<td>C1 - with tables (e.g. restaurants, cafés, ...)</td>
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<td>400</td>
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<td>C3 - without obstacles for moving people (e.g. museums, exhibition rooms...)</td>
<td>400</td>
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<td>500</td>
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<td>x</td>
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<td>500</td>
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<tr>
<td>D1 - General retail shops</td>
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- The mechanical properties of BF-DS1070 and BF-DS1060 are tested following EN 310 and EN IS33.
- This table is not applicable for other flooring products mentioned in this document.

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