

BAMBOO FLOORING

DATA SHEET - STYLEBOARD™

Strandwoven Bamboo Flooring



style | plantation

NATURE'S FLOORING

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User's Responsibility

The information contained in this product Information and Material Safety Data Sheet is based on the information provided by the manufacturer and the experience of occupational health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if this information is suitable for their applications and to follow safety precautions as may be necessary. The user has the responsibility to make sure that this sheet is the most up-to-date issue.

Style Plantation

If you are one of the growing number of consumers, design professionals and builders seeking ways to incorporate "green" products into your home and projects, you will find Style Plantation an experienced partner and valuable resource.

From the moment our company was founded in 2000 (originally named Style Limited), we have been committed to developing and sourcing beautiful bamboo and other renewable products that:

- » Reduce dependence on dwindling timber resources
- » Rely on renewable-resource materials
- » Adhere to stringent, environmentally sensitive specifications
- » Promote green building
- » Help neutralize our company's environmental footprint

Sustainability

A process is sustainable if it can be repeated again and again without negative environmental impact or high costs to anyone. For plants like bamboo, it means harvesting crops or materials so as to ensure the health and vitality of the plant for future harvests. For bamboo farmers, it means being paid fair prices that sustain their families. Issues of sustainability impact every aspect of a business from raw materials to manufacturing and shipping to proximity of labour force to factories. For a business, it means a complex of things from profitability to fair worker wages to carbon-neutral operations.

Sustainably harvested Moso bamboo

For Style Plantation bamboo flooring, stair parts, trim, panels and veneer, we use only Moso bamboo (*Phyllostachys pubescens*) known for its dense fibres and grown in the Zhejiang Province of China. We also require that the bamboo is sustainably harvested at maturity, every 5-1/2 to 6 years. With these specifications, we avoid product performance problems like cupping and warping associated with young, soft and often-inexpensive bamboo that is harvested too soon. As a result, Style Plantation products are exceptionally durable and our source plants remain vigorous and healthy harvest after harvest.

Carbon sequestration: cleaner air, carbon offsets

In addition to relieving pressure on degraded forests, bamboo contributes to efforts to reduce global warming. Bamboo's leafy canopy releases 35 percent more oxygen than a comparable cluster of hardwood trees, especially when you consider that the bamboo re-grows and reproduces a canopy many times in its lifespan. In the renewing process, the plant grabs carbon from the air and holds it within its stalk and root system where, in nature, it is not released until the soil, in which the plant decomposes, is turned. Products made from bamboo take that carbon out of circulation. Style Plantation bamboo products harvested and manufactured correctly can last for many generations, keeping carbon locked up over

Environmentally conscious specifications

Style Plantation specifications protect the environment around the world and in your home. The durable factory finish Treffert coatings on our flooring is water-based and solvent-free. The factory's proprietary manufacturing adhesive emits less formaldehyde than allowed by the European E1 standards.

Positioned to do things right

We have partnered with a single factory group in China that shares our commitment to quality, environmental responsibility, safety and sustainable business practices, including fair wages and safe working conditions. The factory's are ISO 9001 and 14001-certified and the production process includes quality-control inspection stations as well as spot checks by a quality control engineer.



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1. Product Identification

STYLEBOARD™ Strandwoven Bamboo is a trademarked construction method in which fibres of semi-shredded bamboo are intertwined in a pressure-treated adhesive base to form a high-density, homogenous bamboo plank without internal voids.

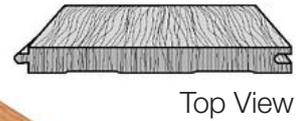
As used in Style Plantation's flooring, fibres may be all natural coloured or all caramelized (Coffee), or dramatic combinations of fibres such as the light and dark caramelized fibres form a range of styles including but not limited to: Suede, Tigerboard and Marble. The range also includes a selection of colours derived from a stained finish – Bourbon (red base), Espresso (deep brown/black base), Limewash (white distressed look base).

Our suppliers use one of the hardest species of Chinese bamboo, Moso bamboo (*Phyllostachys pubescens*). It is cut into strips before drying, steaming and compressing it in sheet form under heat and pressure. The result is a flooring product that's stronger than most traditional hardwood flooring products.

Most wood products undergo a Janka hardness rating which denotes the timber hardness and therefore durability and the higher the score the harder the timber. In Australia the bench mark is often Jarrah, with a rating of 8.5 or 8.6. STYLEBOARD™ has been tested by CSIRO for its Janka rating and tested at 14.3. Very few timbers rate higher. In addition to durability and stability, bamboo might be preferred for its natural beauty and the fact that it doesn't contribute to the depletion of our hardwood resources.

Bamboo flooring is comparable in price to premium hardwood flooring. Because it is a natural, renewable resource, bamboo flooring is considered by many experts and homeowners to be the logical flooring choice of the future. Choosing bamboo flooring products is an environmentally and ecologically responsible choice. Any way you look at it, buying bamboo flooring is an environmentally, economically and aesthetically smart choice! The products we offer are available in a range of colours, sizes and finishes. All STYLEBOARD™ Strandwoven Bamboo Floorboards and Accessories are pre-finished in a German production line coating system called Treffert. The finishes range from a matt, semi-gloss, satin or high gloss.

STYLEBOARD™ Strand Woven Bamboo



Top View

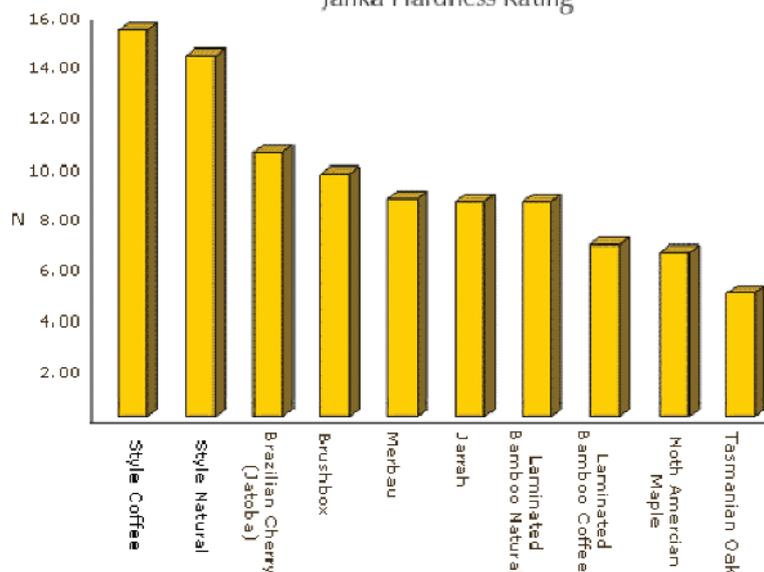
Side View

Specifications:

STYLEBOARD™ strand woven bamboo boards are very hard and durable. In independently conducted tests the natural colour rated as 14.3kN on the Janka test and the coffee colour rated 15.3kN. These ratings compare very favourably with Jarrah for example at 8.6kN and the normal laminated bamboo flooring at 6.9kN to 8.5kN



Janka Hardness Rating



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Our flooring is nearly twice as hard as Jarrah and at 14mm is thicker with no sanding so you get a lot more for your dollar with strand woven technology.

We offer a renewable resource product that has the look and feel of a hard wood conventional floor BUT with the renewable resource theme AND one of the hardest timber flooring products in the world.

The following graph provides an indicative view of the various products.

Colours: Strand woven bamboo flooring is available in a wide range of colours including natural tones known as Savannah (tongue & groove system) and Honey Blend (Uniclic floating floor system). The darker colours Coffee/Latte (tongue and groove system), Cocoa Blend (Uniclic floating floor system), Suede and Marble are achieved through a process of carbonisation where the stands are put through a steaming process which “caramalises” the sugars in the bamboo resulting in the darker tones. The range also includes a selection of colours derived from a stained finish – Bourbon (red base), Espresso (deep brown/black base), Limewash (white distressed look base) and Walnut (black tones) also known as Black Japan.



Sizes: Styleboard™ Tongue and Groove

14(t) x 96(w) x 1850 (l) or 14(t) x 130 (w) x 1850(l)

Styleboard™ Interloc – 14(t) x 115(w) x 1830 (l)

Finishes: available in matt, semi-gloss and gloss, 3 - 6 coats of quality Treffert coatings.

Density: BSB Natural - 993kg/m³, BSB Coffee - 1030kg/m³

Hardness: (Janka rating) BSB Natural -14.3kN, BSB Coffee - 15.3kN

Impact: 114.7kg/cm³ Average range of Moisture Content: 9.54% - 12%

CSIRO Slip Resistance Test (wet and dry): Report SY1131-1 - Rating 9 (full report available on request)

Installation: Glue down is recommended, using the Sika product; T55 for the tongue and groove system. No glue is required for the Uniclic system which is designed as a floating floor system.

Fire Rating: CSIRO Report - FNR 0156C

Mean distance of flame travel: 300mm

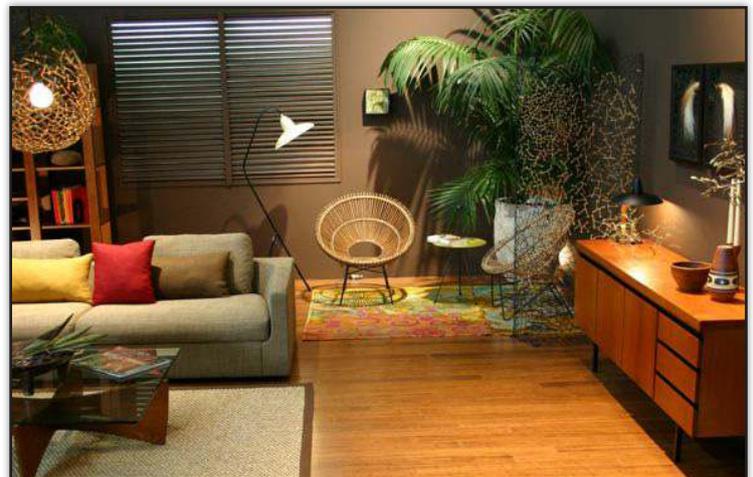
Average critical radiant flux: 7.1 kW/m²

Average smoke obscuration: 31% min.
(Full report available on request)

Accessories: To match our flooring, we offer a full range of accessories including bull noses for finishing stairs, reducers, and quarter rounds.

Adhesives used in the production of STYLEBOARD Strandwoven Bamboo flooring & Accessories:

The phenol-based adhesive used in the manufacturing of Style Plantation's STYLEBOARD Strand Woven Bamboo Flooring and coordinating accessories has a formaldehyde off-gassing limit averaging 0.01ppm (parts per million): 75



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times lower than OSHA standards, 10 times lower than E1 standards. All of our products are well below OSHA standards of .75 PPM-parts-per million for formaldehyde.

2. Hazardous Ingredients/Identity Information

Name	CAS#	%	Agency	Exposure Limits	Comments
Bamboo *1	None	94-95	OSHA OSHA ACGIH ACGIH	PEL-TWA 15mg/m3 PEL-TWA 5mg/m3 TLV-TWA 3mg/m3 TLV-STEL 10mg/m3	Total Dust Respirable dust fraction Respirable dust fraction Inhalable Particles
Phenol Formaldehyde resin solids *2	None	4-5	OSHA OSHA ACGIH	PEL-TWA 0.75ppm PEL-STEL 2ppm TVL-Ceiling 0.3ppm	Free gaseous formaldehyde Free gaseous formaldehyde Free gaseous formaldehyde
UV Finish Polymerized Polyurethane *3	None	0-1	OSHA ACGIH	PEL-TWA None TLV-TWA None	None None

Bamboo is a member of the grass family which has distinct anatomical differences from that of wood. Therefore, bamboo would be regulated as an organic dust in a category known as "Particulates Not Otherwise Regulated" (PNOR), or Nuisance Dust. By OSHA. Contains less than 0.02% free formaldehyde for pre-finished flooring

3. Hazard Identification

Appearance and Odour: A matrix of natural/blonde or coffee (carbonised) coloured interlocking bamboo fibres bonded with low-fuming phenol-formaldehyde resin having a slightly aromatic odour.

Primary Health Hazards: The primary health hazards posed by these products are thought to be due to exposure to dust generated when machining this product (e.g. sanding, sawing, routing and or planing)

Primary Route(s) of Exposure:

- (X) Ingestion: Dust
- (X) Skin: Dust
- (X) Inhalation: Dust

Medical Conditions Generally Aggravated by Exposure: Dust may aggravate pre-existing respiratory conditions or allergies.

Chronic Health Hazards: Bamboo dust has not been associated with any long term health effects including cancer in animals as well as humans.

Carcinogenicity Listing:

- (X) NTP: Not Listed
- (X) IARC Monographs: Not Listed
- (X) OSHA Regulated: Not Listed

4. Emergency and First-Aid Procedures

Ingestion: Not applicable under normal use.

Eye Contact: Dust may cause mechanical irritation. Treat dust in eye as foreign object. Flush with water to remove dust particles. Get medical help if irritation persists.

Skin Contact: Not applicable for this product in its purchased form, frequent handling of dust or product in its manufactured form may cause some minor drying of the skin, mechanical abrasion, cuts or slivers. Wash hands after handling and obtain medical help if rash or irritation occurs.

Skin Absorption: Not known to occur under normal use.

Inhalation: Not applicable for this product in its purchased form. Bamboo dust may cause obstruction in the nasal passages, resulting in dryness of nose, dry cough and sneezing. Remove to fresh air. Get medical help if persistent irritation, severe coughing or breathing difficulty occurs.

5. Fire and Explosion Data

Flash Point (Method Used): NAP

Flammable Limits:

LEL: NAP

UEL: NAP

Extinguishing Media: Water, carbon dioxide, sand or dry chemical.

Auto-ignition Temperature: Variable [typically 400-500oF (204-260oC)]



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Special Fire-fighting Procedures: None.

Unusual Fire and Explosion Hazards: None

6. Accidental Release Measures

Steps to be Taken In Case Material Is Released or Spilled: Not applicable for product in purchased form. Dust generated from sawing, sanding, drilling, or routing of products may be vacuumed or shovelled for recovery or disposal. Avoid dusty conditions and provide good ventilation. A OHS approved dust respirator should be worn if dust exposure limits are exceeded.

7. Handling and Storage

Precautions to be taken in handling and storage: No special handling precautions are required for products in purchased form. Keep in cool, dry place away from open flame. This product will release small quantities of gaseous formaldehyde (<0.01 ppm in accordance with ASTM E1333 test methods). Store in well ventilated area.

8. Exposure Control Measures

Personal Protective Equipment:

RESPIRATORY PROTECTION - Not applicable for product in purchased form. A OSH-approved dust respirator is recommended when allowable exposure limits are exceeded.

PROTECTIVE GLOVES - Not required. However, cloth, canvas, or leather gloves are recommended to minimize potential mechanical irritation slivers from handling and machining product.

EYE PROTECTION Not applicable for product in purchased form. Goggles or safety glasses are recommended when machining this product.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

- Not applicable for product in purchased form. Outer garments may be desirable in extremely dusty areas.

WORK/HYGIENE PRACTICES - Follow good hygienic and housekeeping practices.

Clean up areas where wood dust settles to avoid excessive accumulation of this combustible material. Minimize blowdown or other practices that generate high airborne dust concentrations.

VENTILATION: LOCAL EXHAUST - Provide local exhaust as needed so that exposure limits are met.

MECHANICAL (GENERAL) - Provide general ventilation in processing and storage areas so that exposure limits are met.

9. Physical/Chemical Properties

Boiling Point (@ 760 mm Hg): NAP

Vapor Pressure (mm Hg): NAP

Vapor Density (air = 1; 1 atm): NAP

Specific Gravity (H₂O = 1): 0.58 g/ml

Melting Point: NAP

Evaporation Rate (Butyl acetate = 1): NAP

Solubility in Water (% by weight): <0.1

% Volatile by Volume [@ 70oF (21oC)]: 0

pH: NAP

Oil-water distribution coefficient: NAP

Odour threshold: ND

10. Stability and Reactivity Stability: (x) Stable

Conditions to Avoid: Avoid open flame. Product may ignite at temperatures in excess of 400oF (204oC).

Incompatibility (Materials to Avoid): Avoid contact with oxidizing agents.

Hazardous Decomposition or By-Products: Thermal decomposition products include carbon monoxide, carbon dioxide, aliphatic aldehydes, rosin acids, terpenes, and polycyclic aromatic hydrocarbons.

Hazardous Polymerization:

() May occur (x) Will not occur

Sensitivity to Mechanical Impact: NAP

Sensitivity to Static Discharge: NAP

11. Toxicological Information

None available for product in purchased form.

Formaldehyde OSHA Hazard rating = 3 for local and systemic acute and chronic exposures; highly toxic. Irritation studies: human skin, 150 ug/3 days, intermittent exposure produced mild results; human eye, 1 ppm/6 minutes, produced mild results.



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Toxicity studies: Human inhalation TCLO of 8 ppm reported but response not specified; human inhalation TCLO of 17/mg/m³ for 30 minutes produced eye and pulmonary results; human inhalation TCLO of 300ug/m³ produced nose and CNS results; LC50 (rat, inhalation) = 1,000 mg/m³/30 minutes; LC50 (mice, inhalation) = 400mg/m³/2 hours.

12. Ecological Information

No information available at this time.

13. Disposal Considerations

Waste Disposal Method: If disposed of or discarded in its purchased form, incineration is preferable. Dry land disposal is acceptable in most states. It is, however, the user's responsibility to determine at the time of disposal whether your product meets the criteria for hazardous waste. Follow applicable federal, state, and local regulations.

14. Transport Information

Not regulated as a hazardous material.

Sources:

Lewis, R.J., Sr. 1992 Sax's Dangerous Properties of Industrial Materials, Eighth Edition, Van Nostrand Reinhold, NY.; NIOSH Registry of Toxic Effects of Chemical Substances (RTECS), 1983-1984 Cumulative Supplement to 1981-1982 Edition and May 1995; OSHA Regulated Hazardous Substances, Government Institutes, Inc. February 1990.



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