

## **Sustainable Flooring's CSI Spec. for Bamboo Millwork**

### **UNFINISHED SINGLE-LAMINATION AND 3-PLY BAMBOO PANELING AND MILLWORK**

#### **1.03 QUALITY ASSURANCE**

##### **A. Qualifications:**

###### **1. Manufacturer Qualifications:**

- a. Use of low-VOC and E0 Compliant adhesives and finishes in manufacturing of all products.
- b. Source and supply of only "mature" raw materials
- c. Product Kiln-dried during manufacturing (and supplied between 6-8% MC)
- d. Member: National Wood Flooring Association, United States Green Building Council

#### **1.04 DELIVERY, STORAGE, AND HANDLING**

A. Deliver millwork components to project site, or fabrication site, not less than 5 days prior to start of installation (to allow for suitable acclimation).

#### **1.05 PROJECT/SITE CONDITIONS**

A. Environmental Requirements: Installation spaces, flooring and adhesive must be maintained at normal occupancy temperature and humidity levels (HVAC working) for minimum 3 days prior to installation. Installation contractor must test for moisture, as referenced in the installation guidelines, ensuring that moisture content of product relative to subfloor is sufficient for installation (less than 3% moisture content difference between the material to be installed, and the subfloor to which it is being installed). This is very important.

#### **1.06 WARRANTY**

##### **A. Special Warranty:**

1. Sustainable Flooring's Structural Warranty: 10 years against delamination or separation as a result of a manufacturing defect when finished and maintained in accordance with manufacturer's installation instructions.

### **PART 2 – PRODUCTS**

#### **2.01 MANUFACTURER**

A. Sustainable Flooring  
4390 Pali Way  
Boulder, CO 80301

Tel: (303) 544-6076  
Fax: (303) 447-0491  
e-mail: [info@sustainableflooring.com](mailto:info@sustainableflooring.com)  
Website: <http://www.sustainableflooring.com>

##### **B. Bamboo Millwork Panels (select one):**

1. Single Lamination Solid: Bamboo strips laminated together, in a single lamination from face to face, and made without internal voids.
  - a. Color: Natural or Carbonized

- b. Grain Orientation: Horizontal or Vertical
2. 3-ply Lamination Solid: Bamboo strips laminated together in a 3-ply configuration, with the face layers oriented perpendicular to the core.
- a. Color: Natural or Carbonized
  - b. Grain Orientation: Horizontal or Vertical
3. MDF Bamboo Panels: Bamboo Veneer laminated onto an MDF core (available in one good side, or two good sides)
- a. Color: Natural or Carbonized
  - b. Grain Orientation: Horizontal or Vertical
4. Formaldehyde-free MDF Panels: Bamboo Veneer laminated onto a formaldehyde-free MDF core (available in one good side, or two good sides)
- c. Color: Natural or Carbonized
  - d. Grain Orientation: Horizontal or Vertical

C. Substitutions: None Permitted.

## **2.02 MATERIALS**

### A. Bamboo Flooring:

1. Species: Mao Tsu (Hairy Bamboo).
2. Size: (in 4'x8' dimensions unless otherwise specified)
  - a. 1/64" (ie: veneer – only available in a single-lamination)
  - b. 1/8" (luan backed)
  - c. 1/4" (single lamination or 3-ply)
  - d. 1/2" (3-ply)
  - e. 3/4" (single lamination or 3-ply)
  - f. 1-1/2" (double stacked single lamination)
3. Edge: Square cut
4. Chemical Treatment: Natural borate solution and hydrogen peroxide to eliminate pests and mildew.
5. Physical Property Performance Requirements:
  - a. Hardness: ASTM D 1037, Janka Ball: Minimum 2075 lbs (Horizontal Natural), 1898 lbs (Horizontal Carbonized), 1798 lbs (Natural Vertical), and 1392 lbs (Vertical Carbonized).
  - b. Dimensional Stability: ASTM D 1037: Dimensional change coefficient: 0.00144.
  - c. Flammability: ASTM E 648: Class I Interior Floor Finish rating per NFPA 101.
  - d. Smoke Density: ASTM E 622: Maximum 270 in flaming mode; 330 in non-flaming mode.
  - e. Compressive Strength: ASTM D 3501: Minimum 7,600 psi (52 MPa) parallel to grain; 2,624 psi (18 MPa) perpendicular to grain.
  - f. Tensile Strength: ASTM D 3500: Minimum 15,300 psi (105 MPa) parallel to grain.
  - g. Slip Resistance: ASTM F 1679, English XL test: Average Dry Slip Index: 0.630.

h. Abrasion Resistance: ASTM D 4060, CS-17 Taber abrasive wheels: Final wear-through: Minimum 12,600 cycles.

i. Moisture Content: ASTM D 4442, Oven Dry Method: 5.47 percent average.

j. Formaldehyde Emissions: ASTM E 1333: 0.0127 ppm average Phenol (No Urea Formaldehyde inclusion acceptable).

B. Installation: Fabricate in same fashion as with traditional "wood" millwork components.

C. Finish: Finish in same fashion as with traditional "wood" millwork components.

### **PART 3 - EXECUTION**

#### **3.01 EXAMINATION**

A. Examine components to which bamboo millwork will be mounted on, or fabricated with.

1. Components must be clean, dry, and free of contaminants that would interfere with adhesive bond.

B. Verify that HVAC system is operating and maintaining occupancy level temperature and humidity conditions.

C. If either of the above needs attendance, coordinate with responsible entity to correct unsatisfactory conditions.

#### **3.02 PREPARATION**

A. Acclimatization: Ensure that all bamboo products are acclimated for a minimum of 3 days, but more importantly fall within 3% MC (moisture content) of site conditions (contact Sustainable Flooring for MC Calibration chart for bamboo).

#### **3.03 INSTALLATION**

A. Bamboo Millwork: Install and fabricate in accordance with accepted wood working and millwork fabrication standards.

#### **3.04 CLEANING and MAINTENANCE**

A. Clean and maintain in accordance with "finish" Manufacturer's recommendations (recoat as often as needed)

With any questions, or for this in a digital format, contact:

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