



Teragren LLC
12715 Miller Road NE, Suite 301
Bainbridge Island WA 98110
Tel: 206.842.9477
Toll-free: 800.929.6333
Fax: 206.842.9456
Email: info@teragren.com
www.teragren.com

PREFINISHED WIDE PLANK STRAND BAMBOO FLOORING
with Xcora® Technology

PORTFOLIO COLLECTION TG



MF '04 SECTION 096400
DOC:MPLS 07 28 11

LEED MR6, IEQ 4.3, IEQ 4.4

\*\*\*\*\*
\*\*\*\*\*

NOTES TO SPECIFIER:

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS
IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS
GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE, AND
THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR
EDITING.

EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND
DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION
NUMBERS AND TITLES ARE CORRECT. (NUMBERS AND TITLES REFERENCED ARE BASED
ON MASTER FORMAT, 2004 EDITION)

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1
DOCUMENTS INCLUDING SECTIONS 013300 -SUBMITTAL PROCEDURES, 016000 -
PRODUCT REQUIREMENTS, 017700 -CLOSEOUT PROCEDURES. CLOSE COORDINATION
WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN
THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE
APPROPRIATE ARTICLES.

\*\*\*\*\*
\*\*\*\*\*

PART 1 - GENERAL

Teragren LLC
Portfolio Collection TG - Strand Bamboo Wide Plank Flooring
with Xcora® Technology

Disclaimer: Teragren LLC has provided this information "as is" without warranties of any kind, expressed or implied. Teragren LLC
has made every reasonable effort to ensure the accuracy of the information provided in this document but we are not responsible for
typographical errors and omissions. Issue Date: July 28, 2011. Revised April 16, 2015

## 1.01 SUMMARY

- A. Section Includes: Prefinished wide plank strand bamboo flooring and matching accessories installed by the [nail or staple down method.] [floating floor method.] [glue down method.] [nail or staple and glue-down method.]

\*\*\*\*\*  
INCLUDE SECTION NUMBER AND TITLE BELOW FOR OTHER TYPES OF FLOORING MATERIALS-BORDERING THE BAMBOO FLOORING, AND FINISHED TRIM SUCH AS BASEBOARDS IF NOT INCLUDED IN THIS SECTION.  
\*\*\*\*\*

- B. Work in other sections:
1. For project sustainability requirements, See 018113 “Sustainable Design Requirements”

## 1.02 SUBMITTALS

- A. Submit the following items:
1. Product Data:
    - a. Flooring Specification Sheet.
    - b. Finish data: finish type, composition and manufacturer (See summary in section 2.02).
    - c. Proof of supplier’s legal right to provide product
    - d. Material Safety Data Sheet (MSDS) (if required for LEED submittal)
    - e. [FloorScore®](#) certification #SCS-FS-08178: Air quality certification from Resilient Floor Covering Institute - [www.rfci.com](http://www.rfci.com)
    - f. Certified Hardness Tests, Janka results (See summary in section 2.02).
    - g. Manufacturer’s installation guidelines and installation requirements.
    - h. ISO-9001 and 14001 factory certifications.
  2. Accessory profiles (See specification in section 2.03).
  3. Warranty for Architect’s review.
  4. Shop Drawings: Include direction of flooring, fastening method to be used, patterns and transition accessories. Include large scale details of accessories and details of all transitions. Make shop drawings in module required by Architect or electronically using Architects’ format.
  5. Samples:
    - a. 4 or 12 inch (100 or 300 mm) long strip of flooring plank, with manufacturer identified. Submit enough samples to show full range of color and grain variation.
    - b. One of each specified accessory, minimum 4 inches (100 mm) long.
  6. Quality Assurance/Control Submittals:
    - a. Test Report: Electronic copy of lab reports including name and contact information of certified lab.
    - b. Manufacturer's Installation Guidelines
- B. Closeout Submittals, submit following items:
1. Maintenance instructions
  2. Special Warranties for use in Owner’s manual.

Teragren LLC  
Portfolio Collection TG - Strand Bamboo Wide Plank Flooring  
with Xcora® Technology

Disclaimer: Teragren LLC has provided this information “as is” without warranties of any kind, expressed or implied. Teragren LLC has made every reasonable effort to ensure the accuracy of the information provided in this document but we are not responsible for typographical errors and omissions. Issue Date: July 28, 2011. Revised April 16, 2015

1.03 QUALITY ASSURANCE

- A. Qualifications:
  - 1. Manufacturer Qualifications:
    - a. Minimum 20 years' experience in manufacturing and distributing bamboo flooring.
  - 2. Installer Qualifications:
    - a. Minimum three years experience in bamboo / hardwood flooring installation.
    - b. Minimum three years experience in installation of bamboo / hardwood flooring over radiant heating systems. (use only if necessary)
- B. Pre-Installation Meeting:
  - 1. Convene meeting at project site within one week of scheduled start of installation with representatives of the following in attendance: Architect, General Contractor, and Sub-Contractor.
  - 2. Review project / site conditions, requirements of related work, requirements for operation of HVAC system, installation guidelines, storage and handling procedures, and protection measures.
  - 3. Discuss responsibilities of various parties and deviations from specifications and guidelines for installation.
  - 4. Distribute minutes to attendees within 48 hours.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. For maximum stability, acclimate in and install into environments with operating HVAC systems able to consistently maintain 35-55% Relative Humidity
- B. Do not deliver or install flooring until the structure has been enclosed with windows and doors, and all cement, plastering, and other "wet" work has been completed.
- C. Handle and unload flooring with care. Store in a dry place with at least a four-inch air space under cartons. Do not store boxes on uncovered concrete or other cementitious materials.

1.05 PROJECT/SITE CONDITIONS

\*\*\*\*\*  
**RADIANT HEAT NOTE: SELECT "5 DAYS" IN FOLLOWING PARAGRAPH IF FLOORING IS TO BE INSTALLED OVER A RADIANT HEAT SYSTEM; OTHERWISE, SELECT "72 HOURS."**  
\*\*\*\*\*

- A. Environmental Requirements: All installation spaces and flooring must be maintained at normal occupancy temperature and humidity levels for a minimum of [72 hours] [5 days] prior to and continuously following installation. HVAC systems must be operational and controlling site temperature and humidity.

Teragren LLC  
Portfolio Collection TG - Strand Bamboo Wide Plank Flooring  
with Xcora® Technology

Disclaimer: Teragren LLC has provided this information "as is" without warranties of any kind, expressed or implied. Teragren LLC has made every reasonable effort to ensure the accuracy of the information provided in this document but we are not responsible for typographical errors and omissions. Issue Date: July 28, 2011. Revised April 16, 2015

- B. Teragren bamboo flooring must be installed into environments with HVAC systems able to consistently maintain 35-55% Relative Humidity (RH) at 60-80° Fahrenheit. Climate conditions (RH/Temperature) outside of the recommended range will cause the moisture content of the flooring to decrease or increase and may cause excessive shrinking, swelling, checking, cupping, buckling, or other unintended dimensional change. Flooring must be delivered to the job site a minimum of 48 hours prior to installation. On site acclimation to relative humidity or temperature conditions outside of the 35-55% Relative Humidity (RH) at 60-80° Fahrenheit range may take up to two weeks to ensure flooring is adequately acclimated to the job site environment. Flooring is acclimated when its moisture content no longer changes. To acclimate flooring, remove all packaging and sticker stack flooring planks to ensure all material can acclimate to the job site conditions.

1.06 WARRANTY

- A. Warranty for Prefinished Teragren® Portfolio Bamboo Flooring:
  1. Teragren® Structural Warranty: Limited lifetime. Please see [www.teragren.com](http://www.teragren.com) for current product warranty.
  2. Teragren® Commercial Finish Warranty: 10-year limited finish warranty. Please see [www.teragren.com](http://www.teragren.com) for current product warranty.

\*\*\*\*\*  
 USE ABOVE FINISH WARRANTY FOR COMMERCIAL PROJECTS. USE THE FOLLOWING  
 FINISH WARRANTY FOR RESIDENTIAL PROJECTS.  
 \*\*\*\*\*

- 3. Teragren® Residential Finish Warranty: 25-year limited finish warranty. Please see [www.teragren.com](http://www.teragren.com) for current product warranty.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Teragren LLC
 

12715 Miller Road NE, Suite 301	Tel: (800) 929-6333
Bainbridge Island, WA 98110	Fax: (206) 842-9456
	e-mail: <a href="mailto:info@teragren.com">info@teragren.com</a>
	Website: <a href="http://www.teragren.com">http://www.teragren.com</a>

\*\*\*\*\*  
 INSERT NAME, ADDRESS AND PHONE NUMBERS OF LOCAL DISTRIBUTOR/DEALER  
 BELOW.  
 \*\*\*\*\*

- 1. Distributor/Dealer:

- B. Bamboo Flooring Strand Type:

Teragren LLC  
 Portfolio Collection TG - Strand Bamboo Wide Plank Flooring  
 with Xcora® Technology

Disclaimer: Teragren LLC has provided this information "as is" without warranties of any kind, expressed or implied. Teragren LLC has made every reasonable effort to ensure the accuracy of the information provided in this document but we are not responsible for typographical errors and omissions. Issue Date: July 28, 2011. Revised April 16, 2015

1. Bamboo strand composite in a pressure treated adhesive base to form a high density homogenous bamboo plank using Xcora<sup>®</sup> technology.
  - a. Color: [New Country] [Honey Ridge] [High Tea] [Rich Cognac] [Brown Sugar] [Darby Brown] [Midnight Black] [Paris Black] [Hewn Port] [Hewn Tawny] [Chestnut] [Wheat] [Brindle] [Java] [Sculpted Java].

C. Substitutions: None Permitted.

## 2.02 MATERIALS

### A. Strand Bamboo Flooring:

1. Species: Moso Bamboo (*Phyllostachys Pubescens*).
2. Manufactured using Xcora<sup>®</sup> Technology
3. Two Stage Moisture Balancing Process: Raw materials and finished product are moisture balanced to equilibrium at 45-50% Relative Humidity
4. Size: 5.43 inches (138 mm) wide by .47 inch (12 mm) thick by 72.44 inches (1840 mm) in length.
5. Back: Channeled and sealed with factory-finish seal coat.
6. Finish: Seven-coat, 100 percent solids, non off-gassing, water-based system with aluminum oxide including two top coats of scratch-resistant polyurethane.

### B. Physical Property Performance Requirements:

1. Hardness: ASTM D 1037, Janka Ball: Minimum Average 3,428.
2. Dimensional Stability: ASTM D 1037: Dimensional change coefficients: 0.00011 parallel / 0.00088 perpendicular / N/A thickness.
3. Slip Resistance: Coefficient of Friction: ASTM D2394; Static 0.592 Sliding 0.62
4. Flammability:
  - a. GB/T 8624-1997: Class B1
  - b. ASTM E 648: Class I Interior Floor Finish rating per NFPA 101.
  - c. Smoke Density: ASTM E 622: Maximum 341 in flaming mode; 191 in non-flaming mode.
5. Compressive Strength: ASTM D 3501: Minimum 14,080 psi (96 MPa).
6. Abrasion Resistance: ASTM D 4060, CS-17 Taber abrasive wheels: Final wear-through: Minimum 27,500 cycles.
7. Moisture Content: ASTM D 4442, Oven Dry Method: 6-8 percent, average.
8. Formaldehyde Emissions: ASTM E 1333: 0.01 ppm.
9. Thermal Resistance: ASTM C 518-04: R value of 0.53.

### C. Optimal Sub-Floors

1. 1 1/8 inch plywood over joists at 16 inches on center
2. 5/8 inch CDX plywood for 12 inch on center and 16 inch on center floors
3. 3/4 inch CDX plywood for 24 inch on center floors

### D. Suitable Pre-Existing Sub-Floors

4. Concrete
5. Particleboard
6. Wood Floors
7. Tile

Teragren LLC  
Portfolio Collection TG - Strand Bamboo Wide Plank Flooring  
with Xcora<sup>®</sup> Technology

Disclaimer: Teragren LLC has provided this information "as is" without warranties of any kind, expressed or implied. Teragren LLC has made every reasonable effort to ensure the accuracy of the information provided in this document but we are not responsible for typographical errors and omissions. Issue Date: July 28, 2011. Revised April 16, 2015

- 8. Ceramic
- 9. Vinyl

*(Floating floor approved underlayment or cork not exceeding 5/64" in thickness may be used between the sub-floor and the flooring.)*

2.03 ACCESSORIES

- A. Stair Treads: 11-1/2 inches (292.1 mm) wide by 1-1/16 inches (26.98 mm) thick in 48 inch (1219.2 mm) lengths only [ \_\_\_\_\_ inches ( \_\_\_\_\_ mm) wide by \_\_\_\_\_ inches ( \_\_\_\_\_ mm) thick]. Match flooring grain, color, and finish.
- B. Stair Riser: 7-1/2 inches (190.5 mm) wide by 5/8 inch (15.87 mm) thick in 48 inch (1219.2 mm) lengths only [ \_\_\_\_\_ inches ( \_\_\_\_\_ mm) wide by \_\_\_\_\_ inches ( \_\_\_\_\_ mm) thick]. Match flooring grain, color, and finish.
- C. Stair Nosing: [4-1/8 inches (105 mm) wide by 1-3/8 inches (35 mm) thick] [ \_\_\_\_\_ inches ( \_\_\_\_\_ mm) wide by \_\_\_\_\_ inches ( \_\_\_\_\_ mm) thick]. Match flooring grain, color, and finish. Note: available only in 72" length.

\*\*\*\*\*  
 IF TRANSITION STRIPS TO OTHER FLOORING MATERIALS ARE REQUIRED, VERIFY WHICH FLOORING INSTALLER SHOULD PROVIDE THE TRANSITIONS AND INCLUDE BELOW OR IN ANOTHER SECTION AS APPROPRIATE.  
 \*\*\*\*\*

- D. Floating Floor Reducer: [2-1/2 inches (63 mm) wide by 5/8 inch (15.87 mm) thick] [ \_\_\_\_\_ inches ( \_\_\_\_\_ mm) wide by \_\_\_\_\_ inches ( \_\_\_\_\_ mm) thick]. Match flooring grain, color, and finish. Note: available only in 72" length.
- E. T-Mold: [2 inches (50.8 mm) wide by 7/8 inch (22.22 mm) thick] [ \_\_\_\_\_ inches ( \_\_\_\_\_ mm) wide]. Match flooring grain, color, and finish. Note: available only in 72" length.
- F. Base Shoe: [3/4 inch (19.05 mm) high by 1/2 inch (12.7 mm) thick] [ \_\_\_\_\_ inches ( \_\_\_\_\_ mm) wide by \_\_\_\_\_ inches ( \_\_\_\_\_ mm) thick]. Match flooring grain, color, and finish. Note: available only in 72" length.
- G. Base Molding: [5-1/2 inches (142 mm) high by 5/6 inch (16 mm) thick. [ \_\_\_\_\_ inches ( \_\_\_\_\_ mm) wide by \_\_\_\_\_ inches ( \_\_\_\_\_ mm) thick]. Match flooring grain, color, and finish. Note: available only in 72" length.

\*\*\*\*\*  
 FLOOR VENTS ARE AVAILABLE IN SEVERAL STANDARD SIZES AND CUSTOM SIZES. VERIFY THAT APPROPRIATE VENTS ARE NOTED ON THE DRAWINGS.  
 \*\*\*\*\*

- H. Floor Vent: Size and type as shown on drawings. Match Flooring color and Finish.

Teragren LLC  
 Portfolio Collection TG - Strand Bamboo Wide Plank Flooring  
 with Xcora® Technology

Disclaimer: Teragren LLC has provided this information "as is" without warranties of any kind, expressed or implied. Teragren LLC has made every reasonable effort to ensure the accuracy of the information provided in this document but we are not responsible for typographical errors and omissions. Issue Date: July 28, 2011. Revised April 16, 2015

\*\*\*\*\*  
INCLUDE ADDITIONAL ACCESSORIES SUCH AS METAL OR WOOD FEATURE STRIPS IF  
USED IN THE PROJECT.  
\*\*\*\*\*

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

- A. Verify job site conditions (temperature, relative humidity) match minimum standards defined in manufacturer's installation guidelines  
<https://teragren.box.com/shared/static/xd2ymcftnzkkgiuk43nn.pdf>
- B. Verify that HVAC system is operating and maintaining an occupancy level temperature and humidity conditions.
- C. Coordinate with responsible entity to correct unsatisfactory installation conditions.
- D. Commencement of work by installer is considered an acceptance of substrate and environmental conditions.
- E. Prior to installation, the installer shall examine all material and confirm that it matches the work order.

#### 3.02 PREPARATION

- A. Ensure Portfolio flooring has been acclimated to site conditions in accordance with manufacturer's installation guidelines  
<https://teragren.box.com/shared/static/xd2ymcftnzkkgiuk43nn.pdf>

Teragren LLC  
Portfolio Collection TG - Strand Bamboo Wide Plank Flooring  
with Xcora® Technology

Disclaimer: Teragren LLC has provided this information "as is" without warranties of any kind, expressed or implied. Teragren LLC has made every reasonable effort to ensure the accuracy of the information provided in this document but we are not responsible for typographical errors and omissions. Issue Date: July 28, 2011. Revised April 16, 2015

### 3.03 INSTALLATION

\*\*\*\*\*  
MANUFACTURER'S INSTALLATION GUIDELINES ARE ADEQUATE FOR NORMAL  
INSTALLATION CONDITIONS. UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL  
INFORMATION IN THIS ARTICLE.  
\*\*\*\*\*

- B. Teragren® Portfolio Strand Bamboo Flooring: Install in accordance with manufacturer's installation guidelines <https://teragren.box.com/shared/static/xd2ymcftnzkkgiuk43nn.pdf>
- C. Floating Installation Note: Any rooms that are not square (such as a T, L, F, or U shaped room) must be separated by an expansion/contraction joint. All door opening must have an expansion /contraction joint between rooms. Under no circumstances should the floor's ability to move freely (float) be restricted.
- D. Because bamboo is a natural fiber, variations in color naturally occur. Each box should be inspected for differences in color with color variance staggered throughout the floor. Installation of any Teragren product serves as acceptance of that material.
- E. Bamboo Flooring must be installed over a vapor barrier or vapor retarder per the following specifications:
  - a. **Concrete Subfloors:** For glue-down installations, use an appropriate liquid or trowel-applied vapor barrier membrane/adhesive system. Impermeable vapor barrier systems with a perm rating less than or equal to .13 are suggested. For floating installations, use an impermeable vapor barrier (such as 6 mil polyethylene sheeting) with a perm rating less than or equal to .13.
  - b. **Wood Subfloors:** Use a UU-B-790a, Grade B, Type 1, Style 1a permeable vapor retarder or equivalent with a perm rating between .7 and 1

### 3.04 CLEANING

- A. Remove all debris left from flooring installation; vacuum and leave flooring in clean, debris-free condition. Remove any liquid spills promptly.

### 3.05 PROTECTION

- A. Cover installed flooring with heavy Kraft-paper or other suitable covering. Do not use a non-breathable sheet or film that could cause condensation to form. Maintain covering throughout remainder of construction period.

END OF SECTION<sup>1</sup>

---

<sup>1</sup> This specification was prepared by Teragren LLC. Comments or suggestions for improvement should be addressed to: Teragren, 12715 Miller Road NE, Suite 301, Bainbridge Island, WA 98110, 800-929-6333, [www.teragren.com](http://www.teragren.com) Email: [info@teragren.com](mailto:info@teragren.com)

Teragren LLC  
Portfolio Collection TG - Strand Bamboo Wide Plank Flooring  
with Xcora® Technology

Disclaimer: Teragren LLC has provided this information "as is" without warranties of any kind, expressed or implied. Teragren LLC has made every reasonable effort to ensure the accuracy of the information provided in this document but we are not responsible for typographical errors and omissions. Issue Date: July 28, 2011. Revised April 16, 2015