

BAMBOO SOLID FLOORING
PRODUCT SPECIFICATION
AS REQUIRED IN CSI 3-PART FORMAT

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TO ALL SPECIFIERS OF HIGUERA HARDWOODS PRODUCTS:

THIS PRODUCT SPECIFICATION IS BEING DEVELOPED AND MODIFIED ON A REGULAR BASIS TO ASSIST ALL PROFESSIONALS IN PRODUCING AN ARCHITECTS MASTER SPECIFICATION. THIS DOCUMENT ADHERES TO THE STRICT GUIDELINES REQUIRED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE AND CAN BE UTILIZED WITH THE MAJORITY OF THE MASTER SPECIFICATIONS WITH MINOR EDITING AS NEEDED.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN PARYNETHSIES () PLEASE MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS AS NEEDED.

Solid Bamboo Flooring

PART 1 - GENERAL

1.01 SUMMARY

A. Standard material provided has no-added urea formaldehyde for all bamboo solid laminated flooring installed by the (glue, float or staple down method.)

B. RELATED SECTIONS

IN THE "RELATED SECTIONS" PARAGRAPH INCLUDE ALL DIVISION 01 SECTIONS CONTAINING LEED REQUIREMENTS.

IN THE EVENT THIS IS AN EDUCATION PROJECT IN A STATE OR ZONE ENFORCING SECTION 01350 – WHICH IS SPECIAL ENVIRONMENTAL REQUIREMENTS- PLEASE SEE LATEST GUIDELINES.

YOU MAY FILL IN THE APPROPRIATE REQUIREMENTS FOR ANY MATERIALS WHICH ARE APPLIED IN CONTACT WITH THE BAMBOO SOLID LAMINATED FLOORING

1. Section 03- 30- 00 - Cast-In-Place Concrete

2. Section 06- 16- 23 – Subflooring

3. Section 06 16 26 – Underlayment

4. Section 06 16 29 – Acoustical Underlayment

1.02 REFERENCED PROFESSIONAL STANDARDS

A. ASTM - American Society for Testing and Materials International.

1. ASTM E 648: Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.

2. ASTM D 4442: Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.

3. ASTM D 3501: Standard Test Methods for Wood-Based Structural Panel in Compression

4. ASTM D 1037: Standard Test Methods for Evaluating Properties of Wood-Base Fiber Panel Materials.

5. NWFA- National Wood Flooring Association: Technical Reference Manuals

6. US Green Building Council's Leadership in Energy and Environmental Design Green Building Rating System -LEED

1.03 SYSTEM PERFORMANCE

A. Compatibility with Pipe (water) Radiant Floor Heating Systems: Yes-Compatible – see warranty guidelines

1.05 SUBMITTALS

A. Reference Section 01 33 00; Submit following items

1. Product Data

a. Each product specified-Bamboo Solid Laminate flooring

b. Installation Adhesives-depending on installation technique

2. Quality Assurance/Control Submittals:

a. NWFA Technical Reference Manuals. –specific bamboo

b. Proof of bamboo flooring manufacturer's qualifications. -online

c. Test Reports: Reports for specified Physical Property Performance Requirements.-online

d. MSDS sheets-online

3. Shop Drawings: Show installation schedule with the following included-location, pattern, Installation technique and transitions of each style of flooring and accessory.

4. Samples: please request

12 inch (300 mm) long section of flooring material

6 inch (150mm) long Section of each transitional piece required

LEED'S PROJECTS PLEASE PROVIDE THE FOLLOWING IF REQUIRED.

5. LEED Submittals:

A. Credit EQ 4.4, Low-Emitting Materials: Composite Wood & Agrifiber Products: Manufacturer's product data Credit.

B. Credit MR 6, Rapidly Renewable Materials: Bamboo flooring manufacturer's product data for each product used, indicating that product(s) are manufactured from a rapidly renewable resource

C.MR 7 Certified Wood: Forest Stewardship Council chain of custody certification verification from Higuera Hardwoods LLC

THIS SECTION BELOW IS PROVIDED ONLY FOR ADHESIVES PRODUCTS.

Credit EQ 4.s IS FOR FINISHES WHICH ARE APPLIED TO UNFINISHED BAMBOO PRODUCTS AND SHOULD BE DELETED IF SPECIFYING PRE-FINISHED PRODUCTS. PRODUCT DATA SHOULD BE SUPPLIED BY MANUFACTURER SELECTED

d. Credit EQ 4.1, Low-Emitting Materials: Adhesives and/or sealants see manufacturer's MSDS sheets for related information.

e. Credit EQ 4.2, Low-Emitting Materials: Finish coatings manufacturers: product data on jobsite finished floor coating products.

1.06 QUALITY ASSURANCE

A. Qualifications required

1. Manufacturer:

2. 10 years in manufacturing bamboo flooring products.

B. Distributor:

1. Complete knowledge of products with customer service available

2. Member: National Wood Flooring Association, U.S. Green Building Council.

3. Installer: Minimum 3 years experience in hardwood flooring installation.

C. Reference Sections 01 31 19.33 Pre-Installation Meeting:

1. Convene meeting at project site within one week of scheduled start of installation with representatives of the following in attendance: Owner, Architect, General Contractor, Sub-contractor.

2. Review substrate conditions, requirements of related work, requirements for operation of HVAC system, installation instructions, storage and handling procedures, and protection measures.

3. Keep minutes of meeting including responsibilities of various parties and deviations from specifications and installation instructions.

4. Distribute minutes to attendees within 24 hours

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver flooring and accessory materials in original unopened cartons.

B. Reference Section 01 66 00: Product Handling and Storage Requirements.

1. Store flooring onsite for a minimum of 72 hours in unopened boxes

2. Do not store directly on concrete, near outside walls or in direct sunlight

1.09 PROJECT CONDITIONS

A. Room temperature and humidity of installation area should be consistent with normal range of 35% – 65% humidity, and temperature in the range of 60 – 75 degrees F, for a minimum of one week before installation. Room conditions of 60-75 degrees F and humidity range of 35%-65% percent during installation is recommended.

B. Radiant Heat: Comply with Manufacturer Installation Instructions and flooring guidelines

1.10 WARRANTY

A. Warranty Information for all Higuera Hardwoods high quality bamboo products can referenced online

PART 2 – PRODUCTS REQUIRED

(Specifier please fill in this section) PLEASE CALL 1-888-300-2059 IF YOU NEED ASSISTANCE

2.01 MANUFACTURER

Higuera Hardwoods LLC – Phone 1-360-779-4050 fax 1-360-779-4057 website www.higuerahardwoods.com- no substitutes allowed

2.02 MATERIALS

A. Bamboo Solid Laminated Flooring

1. Species: Moso bamboo (Phyllostachys Pubescens)

Higuera Hardwoods Solid Bamboo Flooring CSI Specification 12/4/2009

2. Edge Configuration: tongue and groove all 4 sides

3. Manufactured with no added urea formaldehyde

4. Flooring Type:

i.(Prefinished: 3-3/4 inches wide by 5/8 inch thick by 72 inches length) (OR Unfinished: 3-3/4 inches wide by 5/8 inch thick by 72 inches length)

ii. (Natural) (carbonized) (Tropic) (custom stain)

iii. (Horizontal-Flat grain) (Vertical -Edge grain)

iiii. FSC Certified material

5. Physical Mechanical Properties

A. ASTM D 1037:

1. Dimensional Stability, at approx 19 percent RH

a. Linear Expansion:

i. Flat grain: Parallel -0.03, Perpendicular -0.12 average

ii. Edge grain: Parallel -0.02, Perpendicular -0.08 average

b. Thickness Swell:

i. Flat Grain: -0.16 averaged out

ii. Edge Grain: -0.36 averaged out

2. Hardness on the Janka Ball Test scale

a. Natural Horizontal Grain: 1530 average

b. Natural Vertical Grain: 1590 average

c. Carbonized Horizontal Grain : 1450 average

d. Carbonized Vertical : 1510 average

c. ASTM D 4442: Moisture Content

1. Vertical and Horizontal Grain, average: 6% – 9% AVERAGE

d. ASTM D 3501: Compressive Strength

1. Horizontal Grain: 7,170 pounds, maximum load 7,489 average

2. Vertical Grain: 6,130 pounds, maximum load 12,005 average

e. No added urea formaldehyde is utilized

B. Installation Adhesives if required:

1. Bostik's adhesive products are recommended for Higuera Hardwoods LLC Products.

C. Fasteners if required:

1. Follow Higuera Hardwoods Installation Instructions; also guidelines must meet or exceed standards in NWFAs Technical Manuals.

PART 3 - EXECUTION

(Insert required info here)

3.01 EXAMINATIONS

A. Examine substrates for compliance with ALL requirements for installation tolerances and ANY other conditions affecting performance of flooring.

B. Verify subfloor is clean and free of loose materials, grease and any other contaminates which may impede the bonding of adhesives.

Specifier's PLEASE Note: remove section below and the related two sub-paragraphs if subfloor is other than concrete.

C. Concrete subfloor moisture check: Use Calcium Chloride test or approved/calibrated moisture encounter meter. Delay the installation of the bamboo material if vapor pressure exceeds 3 lbs per 1,000 SF (15 g per m²) until subfloor meets or exceeds allowable moisture limits.

1. In multiple floor buildings, it is required to test each floor level scheduled to receive the bamboo flooring material.
 2. Pinpoint all test location(s) on As-Built Drawings and report test level findings
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Specifier's PLEASE Note: Delete paragraph below if sub floor is other than wood.

D. Do not install bamboo flooring if wood substrate exceeds 14% moisture.

E. Please verify HVAC System is operating properly, it should be maintaining temperature and humidity conditions in compliance with all installation guidelines.

F. Coordinate with responsible company to correct and all conditions which do not comply with installation guidelines.

G. Proceed with work of installation if acceptance of subfloor and environmental conditions comply

3.02 PREPARATION

A. Acclimatization: place flooring boxes in installation area a minimum 4 days prior to start of installation. Keep boxes closed

B. Grind and fill subfloor utilizing methods and filler materials appropriate to the subfloor construction to eliminate rises and voids exceeding 3/16" in 10 feet.

3.03 INSTALLATION

A. Flooring: Comply with manufacturer's written installation guidelines.

B. Adhesive: Comply with adhesive manufacturer's written guidelines.

3.04 CLEANING: Reference Section 01 74 00: cleaning and debris management

A. Repair or replace damaged installed products.

B. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance.

3.05 PROTECTION

A. Do not allow foot traffic or heavy furniture on floor for 24 hours or as adhesive manufacturer requires.

B. Protect installed product from damage during construction by covering with heavy paper or other suitable covering. Do not use non-breathable sheet or film that could cause condensation to form. Maintain covering throughout remainder of construction period.

END OF PRODUCT SPECIFICATION