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## SECTION 09640

### **3-Part Specification**

#### **HAWA NATURAL & STAINED PREFINISHED SOLID BAMBOO FLOORING**

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#### **GENERAL NOTES TO SPECIFIER:**

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECTS 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 HAWA'S COMPANY WEB-SITE AND/OR SALES PRODUCT BROCHURE, ARCHITECTURAL BINDER)

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING SECTIONS 01330-SUBMITTAL PROCEDURES, 01620-PRODUCT OPTIONS, 01630-PRODUCT SUBSTITUTION PROCEDURES, 01660-PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01740-CLEANING, 01770-CLOSEOUT PROCEDURES, AND 01780-CLOSEOUT SUBMITTALS. 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. THIS IS A CLOSED PROPRIETARY SPECIFICATION. NOTES TO THE SPECIFIER ARE CONTAINED WITHIN ROWS OF ASTERISKS; DELETE ASTERISKS AND NOTES FROM FINAL COPY. OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G.: (35) (40)(45). MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS. ITEMS REQUIRING ADDITIONAL INFORMATION IS UNDERLINED BLANK SPACES, E.G. \_\_\_\_\_. OPTIONAL PARAGRAPHS REQUIRING SELECTION OF ONE OF THE OPTIONS ARE SEPARATED BY "OR" WITHIN BRACKETS; DELETE FROM FINAL COPY. E.G. <<<< OR >>>> OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE SELECTED OR DELETED AS DESIRED ARE SHOWN IN BOLD FACE TYPE. DELETE BOLD FACE TYPE WHEN INCLUDING THESE PARAGRAPHS OR FEATURES.

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**SECTION 09640-1**

**PART 1 - GENERAL**

**1.01 SUMMARY:**

**A. Section Includes:** Pre-finished solid bamboo strip flooring and matching accessories, installed by the (nail down method) (Glue down method) (Nail and glue down method) (Method as selected by the Contractor)

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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.

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B. Related Sections:

1. \_\_\_\_\_ - \_\_\_\_\_.

2. \_\_\_\_\_ - \_\_\_\_\_.

**1.02 SUBMITTALS**

**A. Reference Section 01330-**Submittal Procedures; submit following items:

1. Product Data:

a. Flooring Specification Sheet. Include:

1. Finish data: finish type, composition and manufacturer.
2. Material safety data sheet (MSDS).
3. Certified hardness tests, Janka results.
4. Manufacturer's installation guidelines and installation requirements.

b. Accessories. Include:

1. Finish data.
2. Accessory profiles.

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IF INSTALLATION ARE "GLUE DOWN", REQUEST A SUBMITTAL ON THE INSTALLATION ADHESIVE.

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c. Installation adhesive.

d. Warranty

2. 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.

3. Samples:

- A. 6 inch (150 mm) long strip of flooring plank, with manufacturer identified.
- b. Fasteners.
- c. One of each specified accessory, minimum 4 inches (100 mm) long.

4. Quality Assurance/Control Submittals:

a. Qualifications:

1. Proof of manufacturer qualifications.
2. Proof of installer qualifications.
- b. Test Reports: Reports for specified Physical Property Performance Requirements.
- c. Manufacturer's Installation Instructions.

B. Closeout Submittals: Reference Section 01780-Closeout Submittals; submit following Items:

1. Maintenance instructions.
2. Special Warranties.

**SECTION 09640-2**

**1.03 QUALITY ASSURANCE**

**A. Qualifications:**

**1. Manufacturer Qualifications:**

- a. Minimum 10 years experience in manufacturing and distributing bamboo flooring of the type specified.
- b. Member: National Association of Floor Covering Distributors, National Wood Flooring Association and National Oak Manufacturers Association.

**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.

**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: Owner, 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. Keep minutes of meeting, including responsibilities of various parties and deviations from specifications and installation guidelines.
- 4. Distribute minutes to attendees within 48 hours.

**1.04 DELIVERY, STORAGE, AND HANDLING**

**A. Reference Section 01660**-Product Storage and Handling Requirements.

B. Deliver flooring to project site in original boxes not less than 5 days prior to start of install. Allow sufficient time for flooring to acclimate to site conditions.

**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."(ENGINEERED BAMBOO ONLY AS PER INSTALLATION INSTRUCTIONS INDICATED)

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**A. Environmental Requirements:** All installation spaces, flooring and adhesive 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. Hawa requires the temperature to be between 60° & 70° with a relative humidity level between 30% - 50% **before, during and after the installation.**

**1.06 WARRANTY**

**A. Warranty for HAWA BAMBOO PREFINISHED Solid Flooring:**

**1. HAWA Commercial Structural Warranty:** 25 years against separation of the bamboo, buckling of the bamboo as a result of a **manufacturing defect** when installed and maintained in accordance with manufacturer's installation and maintenance instructions.

**2. HAWA Commercial Finish Warranty:** 3 years against wear through to the underlying flooring or separation from the flooring as a result of a **manufacturing defect** when installed and maintained in accordance with manufacturer's installation instructions.

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USE ABOVE FINISH WARRANTY FOR COMMERCIAL PROJECTS. USE THE FOLLOWING FINISH WARRANTY FOR RESIDENTIAL PROJECTS:

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**3. Hawa Bamboo Residential Finish Warranty:** 25 years against wear through to the underlying flooring or separation from the flooring as a result of a **manufacturing defect** when installed and maintained in accordance with manufacturer's installation instructions.

**SECTION 09640-3**

**PART 2 - PRODUCTS:**

**HAWA BAMBOO FLOORING TRADING CORPORATION**

**2.01 MANUFACTURER**

**A. HAWA BAMBOO Tel: (800-699-4292/732-390-1818)**

4000 Bordentown Avenue/Suite#4

Sayreville, New Jersey 08872

-1818 Fax-732-390-1838

-1819 www.hawabamboo.com

\*\*\*\*\*

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

\*\*\*\*\*

**1. Distributor/Dealer:**

**B. Bamboo Flooring Type:**

**1. Vertical Grain:** Bamboo strips adhered together with edges exposed to the wear surface to form a solid bamboo plank without internal voids.

a. Colors: (Natural) (Carbonized) (Natural or Carbonized as shown on Drawings). (Cherry) (Black Walnut) (Burgundy) standard factory applied stains.

**2. Horizontal Grain:** Bamboo strips adhered together face up to form a 3-ply solid bamboo plank without internal voids.

a. Color: (Natural) (Carbonized) (Natural or Carbonized as shown on Drawings). (Cherry) (Black Walnut) (Burgundy) standard factory applied stains

**C. Hand scrapped Bamboo available on SPECIAL ORDER ONLY!**

D. Substitutions: None Permitted.

**2.02 MATERIALS:**

**A. Bamboo Flooring:**

**1. Specie:** Moso (Phyllostachys Pubescens).

**2. Bamboo Harvest:** Bamboo harvested no sooner than 4 years and no more than 6 years to ensure color clarity, hardness and stability of fiber.

**3. Size:** 3-3/4" inches wide by 5/8 inch (15 mm) thick by 37-7/8" and 75-3/4" lengths.

**4. Edge:** Tongue and groove with micro-bevel edge.

**5. Back:** Channeled and sealed with factory-finish seal coat.

**6. Chemical Treatment:** Natural borate solution and hydrogen peroxide to eliminate pests and mildew.

**7. Finish:** German TREFFERT brand, eight-coat, 100 percent solids, non off-gassing, water-based system with aluminum oxide in the third(3<sup>rd</sup>) coat for abrasion resistance and the top two clear coats enable easier sanding and/or refinishing, resulting a smooth surface.

**8. Physical Property Performance Requirements:**

**a. Hardness:** ASTM D 1037, Janka Ball: Minimum 2054 Flat Natural; 2138 Vertical Natural; 1592 Flat Caramelized; 1900 Vertical Caramelized.

**b. Dimensional Stability:** ASTM D 1037: Dimensional change coefficient: 0.35 parallel / 0.38 perpendicular / 0.2 thickness.

**c. Flammability:** ASTM E 648: Class I Interior Floor Finish rating per NFPA 101.

**d. Abrasion Resistance:** ASTM C-501, CS-22 Taber abrasive wheels: Final wear through, Minimum 1000 cycles.

e. Slip Resistance: ASTM 2047, Average Static Coefficient of Friction 0.071 Average Lineal (Dynamic) Coefficient of Friction 0.458.

f. Moisture Content: ASTM D 4442, Oven Dry Method: 8% to 12%

g. Formaldehyde Emissions: ASTM E 1333: 0.011 ppm average.

h. The Radiant Panel Association defines engineered bamboo flooring as having a known R value of 0.96 per inch of thickness. The thickness of HAWA engineered bamboo flooring is 5/8" creating an R value of 0.6.

B. Installation Adhesive: One-part moisture-cured urethane premium wood floor adhesive. Such as BOSTIK BEST or BOSTIK TKO, DRI-TAC 7500-ECO, SIKABond T-55 or MAPEI UltraBond 990.

C. Nails or Staples:

1. 1-1/4-1-1/2 Inch (38 mm) Thick Sub-floor: 1-1/4-1-1/2 inch (50 mm) nails or staples.
2. 3/4 Inch (19 mm) Thick Sub-floor: 1-1/2 inch (38 mm) nails or staples.
3. 3/4" Thick Plywood Sub-floor over Concrete: 1-1/4 - 1-1/2 inch (32 mm) nails or staples.

**2.03 ACCESSORIES:**

A. Stair Treads: 11-1/2 inches (292.1 mm) wide by 3/4" thick in 48 inch ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) wide by \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) thick by ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) long. Match flooring grain, color, and finish.

B. Stair Riser: 8-1/2 inches wide by 5/8 inch (15.87 mm) thick in 72 inch ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) wide by ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) thick by ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) long). Match flooring grain, color, and finish.

C. Stair Nosing: (3-1/4 inches wide by 1-1/8 inches) (28.575 mm) thick ( \_\_\_\_\_ Inches) ( \_\_\_\_\_ mm) wide by ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) thick. Match flooring grain, color, and finish.

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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.

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E. Bamboo Reducer: (2-1/2 inches wide by 5/8 inch) (15.875 mm) thick ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) ( wide by \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) thick. Match flooring grain, color, and finish.

F. T-Mold: (2 inches (50.8 mm) (wide by 5/8" thick) ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) wide. Match flooring grain, color, and finish.

G. Quarter Round: (3/4 inch (19.05 mm) high by 3/4 inch ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) wide by \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) thick. Match flooring grain, color, and finish.

H. Wall Base: (3-1/2 inches) (88.9 mm) high by 5/8" thick. ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) wide by \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) thick. Match flooring grain, color, and finish.

I. Baby Threshold: (2 inches) (50.8 mm) wide by 9/16" thick ( \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) ( wide by \_\_\_\_\_ inches) ( \_\_\_\_\_ mm) thick. Match flooring grain, color, and finish.

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HEAT VENTS ARE AVAILABLE IN SEVERAL STANDARD SIZES. VERIFY THAT APPROPRIATE VENTS ARE NOTED ON THE DRAWINGS.

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K. Heat Vent: Size and type as shown on Drawings. Match flooring grain, color, and finish.

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

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**SECTION 09640-4**

**PART 3 - EXECUTION**

**3.01 EXAMINATION:**

**A. Examine substrates upon which flooring will be installed.**

1. Verify that sub-floor is clean, dry, and free of contaminants.

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DELETE FOLLOWING PARAGRAPH AND TWO SUBPARAGRAPHS IF BAMBOO FLOORING IS BEING INSTALLED OVER OTHER THAN CONCRETE SUBSTRATES.

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2. Test concrete floors for moisture content using a Calcium Chloride test. Do not install flooring if vapor pressure exceeds 3 lbs per 1,000 sf (15g per m2) within a 24 hour period.

a. In multiple story buildings, test each floor level scheduled to receive bamboo flooring.

b. Mark test location(s) on As-Built Drawings.

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

C. Coordinate with responsible entity to correct unsatisfactory conditions.

D. Commencement of work by installer is considered an acceptance of substrate conditions.

E. Prior to installation, the installer shall examine all material and determine that it matches the work order.

**3.02 PREPARATION**

A. Acclimatization: Open flooring boxes, remove shrink wrap and packing for a minimum of 3 days prior to start of installation.

B. Grind and or fill sub-floor using methods and materials appropriate to the sub-floor construction to eliminate humps and depressions. For best results neither humps nor depressions shall exceed 1/8 of an inch (3 mm) within a 6 foot (1830 mm) radius or 3/16 inch (4.7 mm) within a 10ft (3048 mm) radius.

C. 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.

**3.03 INSTALLATION**

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MANUFACTURER'S INSTALLATION INSTRUCTIONS ARE ADEQUATE FOR NORMAL INSTALLATION CONDITIONS.

UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL INFORMATION IN THIS ARTICLE.

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A. Bamboo Flooring: Install in accordance with manufacturer's installation guidelines.

B. Install flooring planks by (gluing and/or nailing/stapling to substrate) (gluing to substrate) (stapling to substrate) (nailing or stapling and gluing to substrate) (nailing or stapling, gluing, or nailing or stapling and gluing to substrate at Contractor's option).

C. Lay flooring in the direction(s)/pattern(s) as shown on Drawings. Where not identified run plank length to match longest room dimension.

D. Accessories: Install using methods appropriate to the accessory and flooring system.

E. Accommodate thermal expansion. Install transitions, trim and base molding, as identified in manufacturer's installation guidelines and as required to accommodate site conditions.

**SECTION 09640-5**

**3.04 CLEANING:**

**A. Reference Section 07140–Cleaning.**

**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 SECTION1

This specification was prepared by HAWA BAMBOO FLOORING TRADING CORPORATION. Comments or suggestions for improvement should be addressed to:

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Issue Date: August 3, 2009