

SECTION 09 6400

WOOD FLOORING

PART 1 GENERAL

1.1 SUMMARY

- A. The Contractor shall include all labor, materials, tools, equipment, and services required to source, deliver, furnish, and install all wood necessary for the proper execution and completion of the work, as shown on the Contract Drawings, as specified herein and/or as required by job conditions to provide a complete installation. Work includes, without limitation:
 - 1. Engineered wood plank flooring.
 - 2. Pre-finished and field-finished flooring.
- B. Related Documents and Sections: Examine Contract Documents for requirements that directly affect or are affected by Work of this Section. Other Documents and Sections that directly relate to work of this Section include, but are not limited to:
 - 1. General provisions of the Contract, including General and Supplementary Conditions, and Division 01 General Requirements Specification Sections.
 - 2. Section 06 1000 - ROUGH CARPENTRY.
 - 3. Section 06 2023 - INTERIOR FINISH CARPENTRY.
 - 4. Section 08 1416 - FLUSH WOOD DOORS.
 - 5. Section 09 6013 - ACOUSTIC UNDERLAYMENT.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show installation details including location and layout of each type of wood flooring and accessory.
- C. Samples:
 - 1. Selection Samples: Ten (10) samples of each board width, minimum 72 inches long, demonstrating expected range of grain density, knots, occlusions, color, figure, and other aesthetic features.
 - 2. Samples for Verification: For each type of wood flooring and accessory, with bleaching, stain color and finish required, approximately 48 inches square and of same thickness and material indicated for the Work and showing the full range of normal color and texture variations expected.
 - a. Include samples of border units where borders of different colors, textures, or patterns are indicated.
 - b. Accessories: Include minimum 6-inch-long samples of each type of required accessory item such as wood or metal feature strips, reducer strips, baseboard, trim, molding, and nosings.
- D. Maintenance Materials: Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Wood Flooring: Equal to 2 percent of amount installed for each type of wood flooring indicated.

1.3 QUALITY ASSURANCE

- A. Source Limitations: For wood flooring, obtain each species, grade, and cut of wood from one source with resources to provide materials and products of consistent quality in appearance and physical properties.
- B. Hardwood Flooring: Meet or exceed NWFA's "Hardwood Flooring Installation Guidelines".:
- C. Benchmarks: Provide benchmark installations to verify final selections made under sample submittals and prototypes, to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Install benchmark installations for each unit type in the Work as indicated by the Drawings or directed by the Architect, and as follows:
 - a. Benchmark installation shall be a minimum of 10 feet by 10 feet and shall include a corner condition demonstrating the transition of the strip wood flooring members (herringbone infill, perimeter borders, door thresholds, running bond and wall baseboard inclusive).
 - 2. Approved benchmark installations may be incorporated into the Work if accepted without exception by the Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver wood flooring materials in unopened cartons or bundles.
- B. Protect wood flooring from exposure to moisture. Do not deliver wood flooring until after concrete, masonry, gypsum board, ceramic tile, and similar wet work is complete and dry.
- C. Store wood flooring materials in a dry, warm, ventilated, weathertight location.

1.5 PROJECT CONDITIONS

- A. Prior to installation of the wood flooring, the planks must be conditioned to conditioned gallery conditions for a period of not less than 60 days before wood flooring installation.
 - 1. The conditioning space shall be fully enclosed and the HVAC system fully operational to maintain the space at conditioned gallery conditions, an average of 73 deg. F and 45% relative humidity.

1.6 WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Engineered-Wood Flooring Warranty: Manufacturer will furnish a written warranty, signed by manufacturer agreeing to repair or replace engineered-wood flooring that fails in materials or workmanship.
 - 1. Installation Warranty: Applies to all engineered wood flooring when installed in accordance with manufacturer's guidelines and approved application products.
 - 2. Visual Appearance Warranty: Defective planks/members will be replaced free of charge prior to installation.
 - 3. Structural Warranty: Failure of bonding or other structural aspect of a plank fails manufacturer will either repair or replace the defective plank.

4. Moisture Protection Warranty: If the flooring fails under normal moisture conditions manufacturer will repair or replace the damaged flooring, including refinishing one (1) time.
5. Wear Through Warranty: Manufacturer's factory finish shall be warranted not to wear through for the following period:
 - a. Warranty Period: 25 years from date of Substantial Completion. This warranty extends only for areas which cover at least 10 percent of the surface area of the installed floor.

PART 2 PRODUCTS

2.1 WOOD FLOORING

- A. Moisture Levels: Planks shall be kiln dried to an average moisture content of 7 to 8 percent. Moisture content of all individual planks shall be between 6 percent and 9 percent inclusive, with a maximum moisture content of 9 percent for any individual plank. At the end of the kiln drying process, planks shall be heated to 170 deg. F to set the resin.
- B. Quality
 1. Faces of boards shall be free of mineral streaks.
 2. Sapwood may be present in up to 5% of boards, but not wider than 1/4 in. and not longer than 1/2 the length of any one board. Sap being present shall not be more than one board in every fifty square feet.
 3. Tight small pin holes and knots not exceeding 1/8 in. are accepted in 15% of board.
 4. Closed checks, small burls, reverse grain and small character mark are allowed in not more than 15% of boards.
 5. No sticker stains allowed.
 6. Natural color differences are acceptable, provided the material is generally light and uniform in color. Color range must conform to an established color spectrum.
 7. Slight grain diversion is acceptable.
 8. Tolerance for dimensional deviation not to exceed 1/16 in. in the width or profile of any one piece.
- C. Species and Grades:
 1. Refer to Section 09 0600.

2.2 ACCESSORY MATERIALS

- A. Vapor Retarder: ASTM D4397, polyethylene sheet not less than 6.0 mil thick.
- B. Installation Adhesive: One-part wood floor adhesive approved by flooring manufacturer. Adhesive shall be certified by the manufacturer as compatible with flooring and with the sub-floor.
 1. Available Products:
 - a. Bostik Ultra-Set Singlestep²
 - b. Franklen Titebond 811, or 821
 - c. DriTac 7600 Urethane
 - d. Or as approved by flooring manufacturer.
- C. Moisture Control Coating: At all locations where flooring is installed over slab-on-grade floors or other locations where required by bamboo floor supplier: Flooring adhesive manufacturer's vapor-retardant coating compatible with flooring adhesive.
 1. Adhesives and moisture control coating shall have a VOC content of not more than 100 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

- D. Thresholds and Saddles: To match wood flooring. Tapered on each side.
- E. Reducer Strips: To match wood flooring. 2 inches wide, tapered, and in thickness required to match height of flooring.
- F. Trim: In same species and grade as wood flooring, unless otherwise indicated.
- G. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation.

PART 3 EXECUTION

3.1 PROJECT CONDITIONS

- A. Conditioning period begins not less than sixty days before wood flooring installation, is continuous through installation, and continues not less than seven days after wood flooring installation.
 - 1. Environmental Conditioning: Maintain conditioned gallery occupancy conditions -- 73 deg. F and 45% humidity -- in spaces to receive wood flooring during the conditioning period.
 - a. Do not install flooring until it adjusts to relative humidity of, and is at same temperature as, space where it is to be installed.
- B. After conditioning period, maintain relative humidity and ambient temperature planned for building occupants.

3.2 EXAMINATION

- A. Examine substrates, areas and conditions, with Installer present, for compliance with requirements for maximum moisture content, installation tolerances, and other conditions affecting performance of wood flooring.
 - 1. Verify that substrates comply with tolerances and other requirements specified in other Sections.
 - 2. For adhesively applied wood flooring, verify that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Grind high spots and fill low spots on concrete substrates to produce a maximum 1/8-inch deviation in any direction when checked with a 10-foot straight edge.
 - 1. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
- B. Broom or vacuum clean substrates to be covered immediately before product installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.4 INSTALLATION – BONDED

- A. Strictly comply with manufacturer's written instructions for installation.

3.5 INSTALLATION - FLOATING SUBFLOOR

- A. Lay a single course of OSB subfloor on top of foam sound blanket.
- B. Blind nail or staple flooring with minimum 2 fasteners per piece near ends, and with additional fasteners 8 inches to 10 inches on center between end fasteners.

3.6 PROTECTION

- A. Protect installed wood flooring during remainder of construction period with covering of heavy kraft paper or other suitable material. Do not use plastic sheet or film that might cause condensation.
 - 1. Do not move heavy and sharp objects directly over kraft-paper-covered wood flooring. Protect flooring with plywood or hardboard panels to prevent damage from storing or moving objects over flooring.

END OF SECTION

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