

SECTION 096400 – WOOD FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Factory-finished wood flooring.
2. Field-finished wood flooring.
3. Sound control underlayment.

B. Related Sections:

1. Section 061000 – Rough Carpentry.
2. Section 061600 – Sheathing.

C. Reference and Industry Standards

1. The following reference standards shall be applicable to this Section:
 - a. The current Enterprise Green Communities (EGC) Criteria, and the current New York City Overlay.
2. Industry Standards
 - CDPH (California Department of Public Health)
 - FSC (Forest Stewardship Council)
 - HPVA (Hardwood Plywood Veneer Association)
 - NOFMA (The Wood Flooring Manufacturers Association)
 - NWFA (National Wood Flooring Association)
 - MFMA (Maple Flooring Manufacturers Association)
 - WCLIB (West Coast Lumber Inspection Bureau)

D. The current NYC Overlay of the current Enterprise Green Communities Criteria:

1. Mandatory Requirements: See the NYC Overlay of the EGC reference standard for full specification.
 - a. All projects must achieve compliance with the mandatory criteria measures that are applicable:
 - Criterion 6.4: Healthier Material Selection
 - Criterion 6.10: Construction Waste Management
2. Optional Project Requirements for Certification Points

- a. Additionally, rehab projects are required to achieve **55** optional points. Criteria with optional points related to this Specification Section include, but may not be limited to:

- Criterion 6.4: Healthier Material Selection
- Criterion 6.3: Chemical Hazard Optimization
- Criterion 6.5: Environmentally Responsible Material Selection
- Criterion 6.7: Regional Materials
- Criterion 6.10: Construction Waste Management

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

- A. Documentation for compliance with Enterprise Green Communities Criteria.
- B. Flooring manufacturer's written installation and finishing instructions.

1.4 PROJECT CONDITIONS

- A. Conditioning period begins not less than seven days before wood flooring installation, is continuous through installation, and continues not less than seven days after wood flooring installation.
1. Environmental Conditioning: Maintain an ambient temperature between 65 and 75 deg F and relative humidity planned for building occupants in spaces to receive wood flooring during the conditioning period.
 2. Wood Flooring Conditioning: Move wood flooring into spaces where it will be installed, no later than the beginning of 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. Open sealed packages to allow wood flooring to acclimatize immediately on moving flooring into spaces in which it will be installed.
- B. After conditioning period, maintain relative humidity and ambient temperature planned for building occupants.
- C. Install factory-finished wood flooring after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Flooring must comply with California Department of Public Health (CDPH) emission requirements. Flexible PVC w/phthalates are not allowed.

2.2 PERFORMANCE REQUIREMENTS

- A. Hardwood Flooring: Comply with NWFA A500 for species, grade, and cut.
 - 1. Certification: Provide flooring that carries NWFA grade stamp on each bundle or piece.
- B. Maple Flooring: Comply with applicable MFMA grading rules for species, grade, and cut.
 - 1. Certification: Provide flooring that carries MFMA mark on each bundle or piece.
- C. Softwood Flooring: Comply with WCLIB No. 17 grading rules for species, grade, and cut.
- D. FloorScore Compliance: Wood floors shall comply with requirements of FloorScore Standard.

2.3 FIELD-FINISHED WOOD FLOORING

- A. Solid-Wood Flooring: Kiln dried to 6 to 9 percent maximum moisture content; tongue and groove and end matched; with backs channeled.
 - 1. Grade and Species: No. 2 Common red oak [**MFMA-RL First Grade hard maple**] [**MFMA-RL Second and Better Grade hard maple**] [**Grade C & BTR - Flooring Douglas fir**] [**Grade D - Flooring Douglas fir**] <Insert grade and species>.
 - 2. Cut: [**Plain sawn**] [**Quarter/rift sawn**] [**Edge grain**] [**Vertical grain**] <Insert description>.
 - 3. Thickness: 3/4 inch <Insert dimension>.
 - 4. Face Width: 2-1/4 inches [**3-1/8 inches**] [**5-1/8 inches**] <Insert dimension>.
 - 5. Lengths: Manufacturer's standard [**Random-length strips complying with applicable grading rules**] [**Lengths required to form pattern indicated**] <Insert requirements>.
 - 6. Simulated Wood Pegs: Contrasting wood pegs at ends of flooring pieces.
- B. Engineered-Wood Flooring: HPVA EF, meeting requirements for composite wood products.
 - 1. Species: Red oak [**White oak**] [**Ash**] [**Beech**] [**Maple**] [**Black cherry**] <Insert species>.
 - 2. Grade: <Insert grade>.
 - 3. Thickness: 1/2 inch [**3/8 inch**] <Insert dimension>.
 - 4. Construction: [**Five**] [**Three**] ply.
 - 5. Face Width: 2-1/4 inches [**3 inches**] <Insert dimension>.
 - 6. Length: Manufacturer's standard. Wood filler is formulated to fill and repair seams and defects and to fill open-grain hardwood floors.
- C. Wood Filler: Compatible with finish system components and recommended by filler and finish manufacturers for use indicated. If required to match approved Samples, provide pigmented filler.

- D. Urethane Finish System: Complete water-based system of compatible components that is recommended by finish manufacturer for application indicated.
 - 1. VOC Content: Must comply with 2020 Enterprise Green Communities Criterion 6.4., as follows:
 - a. Floor Sealers: Not more than 250 g/L.
 - Interior Stains: Not more than 250 g/L.
 - 2. Stain: Penetrating and non-fading type.

2.4 FACTORY-FINISHED WOOD FLOORING

- A. Solid-Wood Flooring: Kiln dried to 6 to 9 percent maximum moisture content; tongue and groove and end matched; with backs channeled.
 - 1. Species: Red oak [**White oak**] [**Ash**] [**Birch**] [**Maple**] [**Black cherry**] [**Hickory**] [**Walnut**] <Insert species>.
 - 2. Grade: <Insert grade>.
 - 3. Cut: [**Plain sawn**] [**Quarter/rift sawn**] [**Edge grain**] [**Vertical grain**] <Insert description>.
 - 4. Thickness: 3/4 inch [**25/32 inch**] <Insert dimension>.
 - 5. Face Width: 2-1/4 inches [**3-1/8 inches**] [**5-1/8 inches**] <Insert dimension>.
 - 6. Lengths: [**Random-length strips complying with applicable grading rules**] [**Lengths required to form pattern indicated**] <Insert requirements>.
 - 7. Edge Style: [**Square**] [**Beveled (eased)**] <Insert style>.
 - 8. Finish: UV urethane.
 - a. Color: As selected by [**Design-Professional-of-Record**] [**Owner**] in manufacturer's full range.
- E. Engineered-Wood Flooring: HPVA EF, meeting requirements for composite wood products.
 - 1. Species: Red oak [**White oak**] [**Ash**] [**Beech**] [**Birch**] [**Maple**] [**Black cherry**] [**Hickory**] [**Walnut**] <Insert species>.
 - 2. Grade: <Insert grade>.
 - 3. Thickness: 1/2 inch [**3/8 inch**] <Insert dimension>.
 - 4. Construction: [**Five**] [**Three**] ply.
 - 5. Face Width: 2-1/4 inches [**3 inches**] <Insert dimension>.
 - 6. Length: Manufacturer's standard.
 - 7. Edge Style: [**Square**] [**Beveled (eased)**] <Insert style>.
 - 8. Finish: [**UV urethane**] [**Acrylic impregnated**].

- a. Color: As selected by **[Design-Professional-of-Record]** **[Owner]** in manufacturer's full range.

2.5 SOUND CONTROL UNDERLAYMENT

- A. Sound Control Underlayment: Sound reducing underlayment consisting of impact-absorbing materials. Minimum Impact Insulation Class (IIC) of **[50]** **[55]** **<Insert value>** when tested according to ASTM E492.
 1. Material: **[Recycled rubber]** **[Wood fiber]** **[Wood fiber meeting requirements for composite wood products]** **<Insert material>**.
 2. Thickness: **[3/4 inch]** **[1/2 inch]** **[3/8 inch]** **[1/4 inch]** **[5/32 inch]** **<Insert dimension>**.

2.6 ACCESSORY MATERIALS

- A. Wood Subfloor: As specified in *Section 061000 – Rough Carpentry* and *Section 061600 – Sheathing*.
- B. Wood Sleepers: As specified in *Section 061000 – Rough Carpentry*.
- C. Wood Underlayment: As specified in *Section 061600 – Sheathing*.
- D. Vapor Retarder: ASTM D4397, polyethylene sheet not less than **[6.0 mils]** **[8.0 mils]** thick.
- E. Asphalt-Saturated Felt: ASTM D4869, Type II.
- F. Wood Flooring Adhesive: Mastic recommended by flooring and adhesive manufacturers for application indicated.
- G. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation approved by wood flooring manufacturer.
- H. Fasteners: As recommended by manufacturer, but not less than that recommended in NWFA's Installation Guidelines.
- I. Thresholds and Saddles: To match wood flooring. Tapered on each side.
- J. Reducer Strips: To match wood flooring. 2 inches wide, tapered, and in thickness required to match height of flooring.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with flooring manufacturer's written installation instructions, but not less than applicable recommendations in NWFA's Installation Guidelines.
- B. Wood Sleepers: Install according to requirements in *Section 061000 – Rough Carpentry*.

- C. Wood Subfloor: [Install according to requirements in *Section 061000 – Rough Carpentry* and *Section 061600 – Sheathing*.
- D. Wood Underlayment: Install according to requirements in *Section 061600 – Sheathing*.
- E. Provide expansion space at walls and other obstructions and terminations of flooring of not less than 3/4 inch.
- F. Vapor Retarder: Comply with the following for vapor retarder installation:
 - 1. Wood Flooring Nailed to Wood Subfloor: Install flooring over a layer of asphalt-saturated felt.
 - 2. Wood Flooring Nailed to Sleepers over Concrete: Install flooring over a layer of polyethylene sheet with edges overlapped over sleepers and turned up behind baseboards.
 - 3. Wood Flooring Installed Directly on Concrete: Install a layer of polyethylene sheet according to flooring manufacturer's written instructions.
- G. Sound Control Underlayment: Install over vapor retarder according to manufacturer's written instructions.
- H. Solid-Wood Flooring: Blind nail or staple flooring to substrate.
 - 1. Plank Flooring: For flooring of face width more than 3 inches:
 - a. Hardwood: Install countersunk screws at each end of each piece in addition to blind nailing. Cover screw heads with wood plugs glued flush with flooring.
 - b. Softwood: Install no fewer than two countersunk nails at each end of each piece, spaced not more than 16 inches along length of each piece, in addition to blind nailing. Fill holes with matching wood filler.
- I. Engineered-Wood Flooring: [Set in adhesive] [Nail or staple] [Install floating floor].

3.2 FIELD FINISHING

- A. Machine-sand flooring to remove offsets, ridges, cups, and sanding-machine marks that are noticeable after finishing. Vacuum and tack with a clean cloth immediately before applying finish.
 - 1. Comply with applicable recommendations in NWFA's Installation Guidelines.
- B. Fill [open-grained hardwood] <Insert description of wood to be filled>.
- C. Fill and repair wood flooring defects.
- D. Apply floor-finish materials in number of coats recommended by finish manufacturer for application indicated, but not less than one coat of floor sealer and [three] <Insert number> finish coats.
 - 1. Apply stains to achieve an even color distribution matching approved Samples.
 - 2. For water-based finishes, use finishing methods recommended by finish manufacturer to minimize grain raise.

- E. Cover wood flooring before finishing.
- F. Do not cover wood flooring after finishing until finish reaches full cure, and not before seven days after applying last finish coat.

3.3 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 096400