

Sample Specifications for kiwiFLOOR Studio System –

Section 09646 – Performance Floor Assemblies (Also Dance Floor Assemblies)

PART 1 – GENERAL

1.1 GENERAL

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SUMMARY

- A. This Section includes the following:

- 1. Dance Flooring System

- B. Related Sections include the following:

- 1. Section 03000 – Concrete and Cement Finish: Concrete sub-floor construction and tolerances
 - 2. Section 06200 – Carpentry
 - 3. Division 09 Sections “Resilient Base and Accessories” for resilient wall base and accessories installed with Dance Floor

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer’s detailed technical product information, application instructions and recommended procedures.
- B. Samples: Provide 12-inch square samples for each type of finish flooring indicating color and texture of flooring
- C. Maintenance Literature: Submit sufficient copies of floor manufacturer’s maintenance instructions, including the proper cleaning and finishing.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Installer shall have at least three years experience in installing similar dance floor systems and shall be approved by the manufacturer.

- B. Maple Flooring (if applicable): Comply with MFMA grading rules for species, grade and cut.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect wood from exposure to moisture. Do not deliver wood components until after concrete, masonry, plaster, ceramic tile, and similar wet work is complete and dry.
- C. Store wood components in a dry, warm, well-ventilated, weathertight location and in a horizontal position.

1.6 PROJECT CONDITIONS

- A. The flooring system shall not be delivered and installed until all masonry, plastering, tile work, and all overhead mechanical and electrical trades are completed and building is enclosed and weather tight.
- B. Permanent heat, light, and ventilation shall be installed and operating during and after installation, maintaining a temperature range of 55 – 75 degrees F (13 – 24 degrees C), and a relative humidity range of 35 percent to 60 percent
- C. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- D. Once the installation is complete, do not operate mechanized lifts or other machinery in excess of the manufacturer's absolute limits for loading capacity of the finished floor assembly.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Product: Wooden Kiwi Productions, LLC, 16 Fairmount Avenue, Somerville, MA 02144. Tel: 617 625 9663; Fax: 617 812 5360; Email: info@woodenkiwi.com; Web: www.woodenkiwi.com

2.2 KIWIFLOOR SYSTEM SPRUNG FLOOR ASSEMBLY WITH VINYL FINISH FLOOR

- A. Vapor Barrier: Polyethylene sheet as specified below.
- B. Subfloor: Wooden Kiwi Productions LLC kiwiFLOOR Studio System permanently installed subfloor system consisting of the following:
 - 1. 1” thick closed cell foam pads
 - 2. PTS fir plywood sleepers adhered to foam pads
 - 3. ¾” oriented strand board subfloor with square edges
 - a) At the perimeter of the subfloor system, the OSB subfloor is screwed to 2” x 4” on ¼” plywood pads anchored to floor deck.
 - b) Provide 3/8 inch to ½ inch void around perimeter of entire subfloor
 - c) OSB subfloor is planed and sanded, and all joints sealed with elastomeric caulking, and cleaned with vacuum and/or tack.
 - 4. Overall thickness of the subfloor system is nominally 2 ½ inches.
 - 5. Subfloor Performance must comply with ESTA E1-26 (2006) performance standards.
- C. Finish Floor:
 - 1. Vinyl: Rosco Laboratories: “Adagio” vinyl flooring, 1.5 mm thickness, anchored to subfloor with double sided tape and all joints chemically welded with tetrahydrofuran sealer.
- D. Base: Vented cove as specified below.
- E. Total thickness of Subfloor and finish floor: 2 5/8”

2.3 KIWIFLOOR SYSTEM SPRUNG FLOOR ASSEMBLY WITH HARDWOOD FINISH

- A. Vapor Barrier: Polyethylene sheet as specified below.
- B. Subfloor: Wooden Kiwi Productions LLC kiwiFLOOR Studio System permanently installed subfloor system consisting of the following:
 - 1. 1” thick closed cell foam pads
 - 2. PTS fir plywood sleepers adhered to foam pads
 - 3. ¾” oriented strand board subfloor with square edges
 - a) At the perimeter of the subfloor system, the OSB subfloor is screwed to 2” x 4” on ¼” plywood pads anchored to floor deck.
 - b) Provide 3/8 inch to ½ inch void around perimeter of entire subfloor
 - c) OSB subfloor is planed and sanded, and cleaned with vacuum and/or tack.
 - 4. Overall thickness of the subfloor system is nominally 2 ½ inches.
 - 5. Subfloor Performance must comply with ESTA E1-26 (2006) performance standards.

C. Finish Floor:

1. Hardwood: Northern hard maple (*Acer saccharum*), kiln dried, random length, tongue and grooved, and end matched.
 - a) Grade: First Grade (MFMA)
 - b) Size: 35/32 inch x 2 1/4 inch strips
 - c) Cut: Flat.
 - d) Installation: Fasten to subfloor with finish flooring manufacturer's recommended fasteners at 12" o.c.
 - e) Expansion / Movement:
 - 1) Size joints between hardwood strips to allow for movement in accordance with local humidity conditions.
 - 2) Provide void 1 1/2 to 2 inches in width all around perimeter for expansion.
2. Sealer: 2 coats VOC compliant, water-based catalyzed sealer.
 - a) Product: Basic Coatings "Commercial Catalyzed Sealer"
3. Finish: 3 coats urethane/acrylic coating with matte finish
 - a) Product: Basic Coatings "Street Shoe XL Super Matte"

D. Base: Vented cove as specified below.

F. Total thickness of Subfloor and finish floor: 3 9/32 inches.

2.4 KIWIFLOOR SYSTEM SPRUNG FLOOR ASSEMBLY WITH TEMPERED HARDBOARD FINISH

A. Vapor Barrier: Polyethylene sheet as specified below.

B. Subfloor: Wooden Kiwi Productions LLC kiwiFLOOR Stage System permanently installed subfloor system consisting of the following:

1. 1" thick closed cell foam pads
2. PTS fir plywood sleepers adhered to foam pads
3. 3/4" oriented strand board subfloor with square edges
 - a) At the perimeter of the subfloor system, the OSB subfloor is screwed to 2" x 4" on 1/4" plywood pads anchored to floor deck.
 - b) Provide 3/8 inch to 1/2 inch void around perimeter of entire subfloor
 - c) OSB subfloor is planed and sanded, and cleaned thoroughly with vacuum and/or tack.

4. Overall thickness of the subfloor system is nominally 2 ½ inches.
5. Subfloor Performance must comply with ESTA E1-26 (2006) performance standards.

C. Finish Floor:

1. Tempered Hardboard: Flakeboard Fibrex or equivalent
 - a) Size: 48 inches x 96 inches x ¼ inch
 - b) Average Density: 56 lbs per cubic foot.
 - c) Internal bond strength: 160 pounds per square inch
 - d) Modulus of Rupture: 5800 pounds per square inch
2. Hardboard screwed to subfloor on 12” centers
 - a) Countersink hardboard prior to installation
 - b) Offset hardboard panels from subfloor panels by half a sheet in both long and short directions
 - c) Install hardboard with nominal 1/8” panel spacing
3. Finish: 2 finish coats Modified Acrylic Urethane Paint applied with roller
 - a) Product: California AllFlor
 - b) Prime both sides of panels with 1 undercoat of California AllFlor prior to installation

D. Base: Vented cove as specified below.

E. Total thickness of Subfloor and finish floor: 2 ¾ inches.

2.5 ACCESSORIES

- A. Vapor Retarder: ASTM D 4397, polyethylene sheet not less than 6 mils thick.
- B. Resilient Wall Base: Molded, vented, rubber or vinyl cove base; 4 by 3 by 48 inches; with premolded outside corners.
 1. Color: As selected by Architect
- C. Thresholds: As specified in Division 8 Section “Door Hardware”
- D. Fasteners: Type and size recommend by manufacturer, but not less than those recommended by MFMA for application indicated.

- E. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation approved by dance floor manufacturer

PART 3 – EXECUTION

3.1 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 dance-floor assemblies and performance floor assemblies.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with installation of dance floor assemblies.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected
- B. Concrete Slabs: Verify that concrete slabs comply with requirements in Division 3 Section “Cast-in-Place Concrete” and prepare according to ASTM F 710 to provide surface level to 1/8 inch in 10 feet
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Moisture Testing: Perform tests recommended by the manufacturer and as follows. Proceed with installation only after substrates pass testing.
 - a) Perform anhydrous calcium chloride test, ASTM F1869, as follows:
 - 1) Perform tests so that each test area does not exceed 200 square feet and perform not less than 2 tests in each installation area and with test areas evenly spaced in installation areas.
 - 2) Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3.5 lbs of water per 1000 square feet in 24 hours.
 - b) Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

- c) Concrete sub floors shall have an adequate moisture barrier beneath and at the perimeter of the slab.

3.2 PREPARATION

- A. Grind high spots and fill low spots on concrete substrates to remove ridges, irregularities and roughness substrates with 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 manufacturers written instructions, to fill cracks, holes, and depressions in substrates.
- B. Remove substrate coatings including but not limited to paint, soap, wax, oil, grease, silicone, solvents, adhesives, adhesive removers, alkaline salts, laitance, dust, mold, mildew, curing compounds, sealers, hardeners, and other contaminants.
 - 1. Shot blasting, grinding, honing, scraping, brushing, vacuuming, and other means or combination of methods may be required.
- C. Broom and 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.

3.3 INSTALLATION

- A. General: Install in accordance with manufacturer's recommendations
 - 1. Install flooring only after all finishing operations, including painting, have been completed and permanent heating system is operating. Moisture content of substrates, building air temperature and relative humidity must be within limits recommended by flooring manufacturer.
- B. Cover substrate with vapor retarding membrane, overlap seams 6 inches and tape. Extend membrane approximately 6 inches up the walls
- C. Subfloor Assembly: Install subfloor assembly including resilient pads and sleepers in accordance with manufacturer's written instructions, and as follows.

1. Install perimeter boards on ¼ inch spacers using powder actuated fasteners on 16 to 24 inch centers to a minimum imbed depth of 1 inch. Make sure perimeter is level and shim as necessary.
2. Install sleepers and resilient pads at spacings recommended by manufacturer. Shim and level as necessary to insure a level finish floor.
3. Secure diaphragm of floor to sleepers and perimeter boards with 1 5/8 inch coarse threaded wood screws on 6" staggered centers. Leave 1/8 inch gap between panels on all sides. Re-cut joints on site if necessary to maintain gap. Stagger alternating rows of diaphragm by 48 inches.
4. Plane and sand joints to 1/64 inch tolerance
5. Fill all joints and screw head depressions and other material voids with elastomeric latex caulk per manufacturers instructions. Multiple coats may be required. Sand as necessary to maintain tolerances.

D. Vinyl Finish Floor Installation.

1. Finish flooring shall be unrolled and stored on the premises for at least 24 hours before installation commences, or as required for acclimation. The flooring installer will make final determination of acclimation period.
2. Vinyl finish flooring shall be installed in accordance with manufacturers recommended instructions and procedures.

E. Wood Finish Floor Installation:

1. Installation: Mechanically fasten wood strip flooring perpendicular to supports.
2. Sanding and Finishing:
 - a. Follow applicable recommendations per MFMA
 - b. Allow installed flooring to acclimate to ambient conditions for at least 10 days before sanding.
 - c. Machine sand with coarse, medium, and fine grades of sandpaper to achieve a level, smooth, uniform surface without ridges or cups. Remove sanding dust by tack and vacuum.
 - d. Finish: Apply and seal finish coats of finish system according to finish manufacturer's written instructions. Provide not less than

two coats of sealer and not less than three finish coats, for a total of not less than five coats.

F. Hardboard Finish Floor Installation.

1. Installation: Mechanically fasten prepared hardboard sheets to the subfloor offset by ½ sheet in both directions.
 - a. Fasten hardboard panels to subfloor with 1 ¼ inch coarse threaded screws on 12 inch centers. Leave 1/8 inch gap between panels on all sides. Re-cut joints on site if necessary to maintain gap. Stagger alternating rows by 48 inches
2. Finishing: 2 coats of modified acrylic urethane paint applied by roller.
 - a. Follow paint manufacturer's written recommend instructions and procedures.

G. Vented Cove Base Installation.

1. Install Vented Cove Base per manufacturer's recommended procedures

3.4 CLEANING AND PROTECTION

- A. Vinyl Flooring: Protect dance floor assemblies during remainder of construction period to allow sealer to cure and to ensure that flooring and finish are without damage or deterioration at time of Substantial Completion
1. Immediately after vinyl dance floor installation, remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by dance floor manufacturer
 2. Do not cover floors until seam sealer reaches full cure, and not before two days after finishing installation.
 3. Do not move heavy and sharp objects directly over dance floors.
 4. Protect installed dance floors to comply with CRI 104, Section 16, "Protection of Indoor Installations."
- B. Hardwood Finish Flooring: Protect dance floor assemblies during remainder of construction period to allow finish to cure and to ensure that flooring and finish are without damage or deterioration at time of Substantial Completion

1. Do not cover floors after finishing until finish reaches full cure, and not before seven days after applying last finish coat.
 2. Do not move heavy and sharp objects directly over dance floors. Protect fully cured floor finishes and surfaces with plywood or hardboard panels to prevent damage from storing or moving objects over dance floors
- C. Remove all unused materials and debris, and leave premises in clean and orderly condition, ready for final inspection.

END OF SECTION 09646