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This Guide Specification utilizes the Construction Specifications Institute (CSI) Project Resource Manual – CSI Manual of Practice, including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. A Guide Specification is a manufacturer-specific proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete unused optional text in the final copy of the specification. Specifier Notes commonly precede specification text; delete notes in final copy of specification. Project notes are highlighted and full width of page text; delete Project Notes in final copy of specification.

Metric conversion, where used is soft conversion. In final copy of specification delete IP or Metric units, or leave both as required to comply with project requirements.

This Guide Specification specifies engineered wood strip flooring. These products are manufactured by Kahrs International Inc.

This Guide Specification was prepared by the McGee Group, Construction Specifiers.

Revise Guide Specification section number and title below to suit project requirements, specification practices and section content. Refer to CSI MasterFormat 2004 edition for other section numbers and titles.

SECTION 09 64 53.01

ACTIVITY FLOOR™

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Engineered-wood strip or plank flooring for commercial application.
 - a. Kahrs “Activity Floor,” field finished.
- B. Related Sections include the following:
 - 1. Section 01 81 13 - Sustainable Design Requirements: Additional LEED requirements.

2. Section 03 30 00 – Cast-In-Place Concrete: Concrete substrates including moisture content for engineered wood flooring applications.
3. Section 06 10 00 – Rough Carpentry: Wood substrates, including sleepers and subflooring.
4. Section 06 15 00 – Wood Decking: Wood decking.
5. Division 7 Sections for waterproofing membranes.

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 floor assembly and accessory. Include the following:
 1. Expansion provisions and trim details.
 2. Layout, colors, widths, and dimensions of game lines and markers.
 3. Locations of floor inserts for athletic equipment installed through flooring assembly.
 4. **<Insert requirements.>**
- C. Samples for Initial Selection: Manufacturer's color charts showing colors and glosses available for the following:
 1. Floor finish.
 2. Game-line and marker paint.
- D. Samples for Verification: For each type of sports-floor assembly and accessory required; approximately **[12 inches (300 mm) long]** **<Insert dimension>** and of same thickness and material indicated for the Work.
 1. Include sample sets showing the full range of normal color and texture variations expected in wood flooring.
- E. LEED Submittals:
 1. Credit EQ 4.1: Manufacturers' product data for wood sports-floor assembly installation adhesives, including printed statement of VOC content.
 2. Credit EQ 4.2: Manufacturers' product data for transparent finishes and game-line and marker paints, including printed statement of VOC content and chemical components.
 3. Credit NCv2.2, Clv2.0 and EBv2.0
- F. Qualification Data: For Installer.
- G. Operation and Maintenance Data: For engineered wood strip flooring to include in maintenance manuals. In addition to items specified in Section **[01 77 00 - Closeout Procedures]** **[01 78 23 - Operation and Maintenance Data]**, include the following:
 1. Manufacturer's "Floor Care Guide."
- H. Warranties: Special warranties specified in this Section.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed wood flooring similar in material, design, and extent to that indicated for this Project and whose work has resulted in wood flooring installations with a record of successful in-service performance.
 1. Manufacturer requires using only a certified Kahrs' Activity Floor installer.
- B. Engineered-Wood Flooring:
 1. International Organization for Standards (ISO) 14001, 9001, and 9002 compliant.
- C. Fire-Test-Response Characteristics: Provide engineered wood flooring with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 1. Class C Interior Finish.

- a. Flame-Spread Index: Class C Interior Finish 76-200 or less.
 - b. Smoke-Developed Index: 450 or less.
- D. Mockups: Build mockups to **[verify selections made under sample Submittals and to demonstrate aesthetic effects] [and qualities of materials and execution] [set quality standard for fabrication and installation]**.
- 1. Approval of mockups is also for other material and construction qualities specifically approved by Architect in writing.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups, unless such deviations are specifically approved by Architect in writing.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Section 01 31 00 - Project Management and Coordination.

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, plaster, ceramic tile, and similar wet-work is complete and dry.
- C. Store wood flooring materials in a dry, warm, well-ventilated, weathertight location.
- D. Do not acclimate (open packages) prior to installation.

1.5 PROJECT CONDITIONS

- A. Conditioning: Maintain relative humidity planned for building occupants and an ambient temperature between 55 and 85 deg F or within 15 deg F of normal operating temperature and relative humidity between 30 and 60 percent in spaces to receive wood flooring for at least seven days before installation, during installation, and for at least seven days after installation. After post-installation period, maintain relative humidity and ambient temperature within the ranges indicated above.
 - 1. Close spaces to traffic during flooring installation and for time period after installation recommended in writing by flooring and finish manufacturers.
- B. Surface of the subfloor shall be level to 1/8-inch (3-mm) deviation in any direction when checked with an 8-foot (2.44-m) straight edge radius.
- C. Concrete Subfloor Moisture Content for Engineered Wood Strip Flooring:
 - 1. Standard installation shall contain not more than 3 lb of water/1000 sq. ft. (0.91 kg of water/92.9 sq. m) in 24 hours.
- D. Install factory-finished wood flooring after other finishing operations, including painting, have been completed.
- E. Install floors using only a certified Kahrs' Activity Floor installer.

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. Commercial Engineered-Wood Flooring Warranty: For manufacturer approved commercial areas, 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 30mm (1" 2.90/16ths-inch) flooring when installed in accordance with manufacturer's guidelines and approved application products.
 - a. Warranty Period: 5 years from date of Substantial Completion.
 2. Visual Appearance Warranty: Defective planks will be replaced free of charge prior to installation.
 3. Structural Warranty: Failure of bonding or other structural aspect of a plank fails Kahrs will either repair or replace the defective plank.
 - a. Warranty Period: 1 year from date of Substantial Completion.
 4. Moisture Protection Warranty: If the flooring fails under normal moisture conditions Kahrs will repair or replace the damaged flooring and refinishing one (1) time.
 - a. Warranty Period: 5 years from date of Substantial Completion.
 5. Refer to manufacturer's web site or printed literature for exclusions and liability limitations.

1.7 EXTRA MATERIALS

- A. 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 [1] <Insert other amount> percent of amount installed [for each product indicated], but no fewer than <Insert number> pieces for each type and finish indicated.

PART 2 - PRODUCTS

2.1 ENGINEERED WOOD STRIP FLOORING

- A. Product: Subject to compliance with requirements, provide Original Collection by Kahrs International Inc.
1. Three layered laminated wood flooring consisting of a wearing layer in choice of wood species, design and finish.
 2. Middle core of quarter sawn pine fingers providing stability and shape retention.
 3. Backing layer of spruce.
 4. FSC Certified wood with valid Chain of Custody number.
 5. Resilient Element bottom layer
 6. DIN Tested and Approved, ask Kahrs for DIN results
 7. Patented Woodloc™ joint profile.
 8. 30mm thickness (1" 2.9/16ths inches)
 9. Woodloc profile for float-in installations.
 10. Length: Manufacturer's standard.
 11. Edges: As indicated by product designation above.
 12. Finish: Manufacturer's standard UV cured acrylic urethane finish in color selected by Architect from full range.
 13. Pre-finished UV cured acrylic finish

Specifier Note: Refer to manufacturer's web site for current Activity Floor product list.
<http://www.kahrs.com>

14. Wood Species, Design, and Finish [WF-#]: <insert product description from web site>.

2.2 UNDERLAYMENTS

- A. For floating installation:

- a. Vapor retarder complying with ASTM D 4397, polyethylene sheet not less than 6.0 mils (0.15 mm) thick.

2.3 ACCESSORY MATERIALS

- A. Wood Trim: In same species and grade as wood flooring, unless otherwise indicated.
 1. Wood Base: Manufacturer's standard.
 2. Quarter Round Molding: Manufacturer's standard.
 3. Threshold: Tapered on each side and routed at bottom of one side to accommodate wood flooring.
 4. Reducer Strip: Ask Kahrs for latest update, ADA compliant.
 5. Trim Fasteners: As recommended by manufacturer.
 6. Vented Base
 7. Bleacher Stop: Use Kahrs resilient element as needed.
- B. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation approved by sports-floor manufacturer.
- C. Cleaning Agent: Kahrs Wood Floor Cleaner.
- D. Floor-Finish System: System of compatible components recommended in writing by flooring manufacturer and MFMA approved.
 1. Floor-Sealer Formulation: Pliable, penetrating type.
 2. Finish-Coat Formulation: Formulated for gloss finish and multi-coat application.
 3. Game-Line and Marker Paint: Bona-Kemi Industrial enamel compatible with finish coats and recommended in writing by manufacturers of finish coats, and paint for this use.
 4. Chemical Components: Provide products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. Floor Sealers and Finish Coats: VOC content of not more than 350 g/L.
 - b. Game-Line and Marker Paint: VOC content of not more than 150 g/L.

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 work.
 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
 2. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Concrete Slabs: Verify that concrete slabs comply with requirements of Section 03 30 00 Cast-in-Place Concrete.
 1. Verify that slabs are dry according to test methods recommended by flooring manufacturer.
 2. Where wood flooring is installed directly over concrete slabs, grind high spots and fill low spots to provide a maximum 1/8-inch (3-mm) deviation in any direction when checked with an 8-foot (2.44-m) straight edge.
 3. Where wood flooring is adhesively attached to concrete slabs, verify that slabs are free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written recommendations to ensure adhesion of wood flooring products.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
 - 3. Moisture Testing: Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission at the following rates:
 - a. Standard Installation: Rate of 3 lb of water/1000 sq. ft. (0.91 kg of water/92.9 sq. m) in 24 hours.
 - b. Radiant Heat Installation: Rate of 2 lb of water/1000 sq. ft. (0.60 kg of water/92.9 sq. m) in 24 hours.
 - 4. Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
- C. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
- D. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates.
- E. Do not open wood floor packaging until ready for installation.
- F. Sweep and vacuum clean substrates to be covered by wood flooring products immediately before installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, and dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION

- A. General: Comply with flooring manufacturer's written instructions, as applicable to flooring type.
- B. Installation Requirement: Install floors using only a certified Kahrs' Activity Floor installer.
- C. Pattern: Lay wood flooring in pattern indicated on Drawings or, if not indicated, as directed by Architect.
- D. Expansion Space: Provide expansion space at walls and other obstructions and terminations of flooring of not less than 1/2 inch (12 mm) or greater, as required by manufacturer's installation instructions.
- E. Underlayment: Install appropriate manufacturer approved underlayment in accordance with manufacturer's installation guide.
- F. Vapor Retarder: Where wood flooring is installed on concrete slabs, install a layer of polyethylene sheet according to flooring manufacturer's written instructions, or if slab exceeds 3-lbs (2-lbs for radiant heat installations), use manufacturer approved moisture sealer.
- G. Float-In Installation: Install floating floor according to manufacturer's written instructions.
- H. Accessories: Nail baseboard to wall and nail shoe molding or other trim to baseboard; do not nail to flooring.

3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after completing resilient product installation:
 - 1. Remove adhesive and other blemishes from exposed surfaces.
 - 2. Sweep and vacuum surfaces thoroughly.
 - 3. Use Kahrs Wood Floor Cleaner on surfaces to remove marks and soil.

- B. Protect wood flooring products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended in writing by manufacturer.
 - 1. Cover installed wood flooring to protect it from damage or deterioration, during remainder of construction period until Substantial Completion. Use heavy kraft-paper or other suitable covering. Do not use plastic sheet or film that could cause condensation.
 - a. Do not tape protection material to wood flooring.
 - 2. Do not move heavy and sharp objects directly over surfaces. Place hardboard or plywood panels over flooring and under objects while they are being moved. Slide or roll objects over panels without moving panels.

END OF SECTION