SECTION 09 62 29 – cork flooring

1. General
   1. SUMMARY
      1. This Section includes, but is not limited to, the following:

SPEC NOTE: Edit the following to reflect the products that are required on the Project.

* + - 1. Cork floor tile.
      2. Cork floating floor system.
  1. REFERENCE Standards
     1. American Society for Testing and Materials (ASTM):
        1. ASTM F1066-04(2014) e1, Standard Specification for Vinyl Composition Floor Tile.
        2. ASTM F1861-08(2012) e1, Standard Specification for Resilient Wall Base.
        3. ASTM F1869-11, Standard Test Method for Measuring Moisture Vapour Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
     2. Canadian General Standards Board (CGSB):
        1. CAN/CGSB‑51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
  2. ADMINISTRATIVE REQUIREMENTS
     1. Coordination: Close spaces to traffic during flooring installation and until time period after installation recommended in writing by manufacturer; install flooring and accessories after other finishing operations, including painting and ceiling construction have been completed.
     2. Pre‑Installation Conference: Conduct conference at Project site in accordance with requirements of Section 01 31 19 – Project Meetings, to verify project requirements, substrate conditions, patterns and layouts, coordination with other Sections affected by work of this Section, manufacturer’s installation instructions and manufacturer’s warranty requirements.
  3. SUBMITTALS
     1. Provide submittals in accordance with Section 01 33 00 – Submittal Procedures.
     2. Action Submittals:
        1. Product Data: Submit one copy of product data for each type of product specified.
        2. Shop Drawings: Submit shop drawings indicating:
           1. Include cork flooring layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
           2. Show details of special patterns.
        3. Samples: Full-size units of each type, colour, pattern, and finish of cork flooring required.
        4. Samples for Initial Selection: For each type of cork flooring indicated.
        5. Samples for Verification: Full-size units of each type, colour, pattern, and finish of cork flooring required.
     3. Informational Submittals: Provide the following submittals during the course of the work:
        1. Site Quality Control Test Results: Submit results or moisture emission testing of concrete subfloors prior to installation of flooring. Results shall include comparison of manufacturer’s recommended moisture content to actual moisture vapour emission rate.
     4. Maintenance Data and Operating Instructions:
        1. Operation and Maintenance Data: Submit manufacturer’s written instructions for maintenance and cleaning procedures, include list of manufacturers recommended cleaning and maintenance products, and name of original installer and contact information in accordance with Section 01 33 00 – Submittal Procedures.
     5. Safety Data Sheets:
        1. Submit WHMIS safety data sheets for incorporation into the Operation and Maintenance Manual. Keep one copy of WHMIS safety data sheets on site for reference by workers.
     6. Maintenance Materials:
        1. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
        2. Cork Flooring: Provide 5% of each colour and texture of cork flooring tile installed, boxed, and labelled.
        3. Store maintenance materials on the premises as directed by the Owner.
  4. QUALITY ASSURANCE
     1. Contractor executing work of this Section shall have a minimum of five (5) years continuous experience in successful and installation of work of type and quality shown and specified. Submit proof of experience upon Consultant's request.
  5. MOCK-UPS
     1. Mock-ups: Build mock-ups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
        1. Coordinate mock-ups in this Section with mock-ups specified in other Sections.
           1. Size: Minimum 100 sq. ft. (9.3 sq. m) for each cork flooring type, colour, pattern, and finish, in locations directed by the Consultant.
        2. Approval of mock-ups does not constitute approval of deviations from the Contract Documents contained in mock-ups unless Consultant specifically approves such deviations in writing.
        3. Subject to compliance with requirements, approved mock-ups may become part of the completed Work if undisturbed at time of Substantial Completion.
  6. DELIVERY, STORAGE, HANDLING AND PROTECTION
     1. Coordinate deliveries to comply with Construction Schedule and arrange ahead for off-the-ground, under cover storage location. Do not load any area beyond the design limits.
     2. Materials shall be carefully checked, unloaded, stored, and handled to prevent damage. Protect materials with suitable non-staining waterproof coverings.
     3. Store material in original, undamaged containers or wrappings with manufacturer's seals and labels intact.
     4. Close spaces to traffic during cork flooring installation.
     5. Close spaces to traffic for Seventy-two (72) hours after cork flooring installation.
  7. ENVIRONMENTAL CONDITIONS
     1. Temperature of room, floor surface and materials shall not be less than 21 deg C for 48 hours before, during and for 48 hours after installation. Concrete floors shall be aged for a minimum of 28 days and shall be dry before application of the cork flooring.
     2. Moisture content of floor shall not exceed a maximum of 3 lbs. of water per 1,000 sq. ft. of concrete slab area over a twenty-four (24) hour period as measured by one of the following methods, as approved by Consultant:
        1. Does not exceed 3% as measured by Calcium Carbide Hygrometer procedure.
        2. Does not exceed 5% as measured by normal Protimeter.
     3. Avoid exposure to high humidity, cold drafts, and abrupt temperature changes.
  8. WARRANTY
     1. Warrant the work of this Section against defects in materials and workmanship in accordance with the General Conditions but for an extended period of five (5) years and agree to repair or replace faulty materials or work which become evident during warranty period without cost to the Owner. Defects shall include, but not limited to, bond failure, and extensive colour fading.

1. Products
   1. cork FLOOR tile

SPEC NOTE: Edit the following subparagraphs to reflect the cork flooring tiles selected on this Project. Delete the following if not required.

* + 1. Composition: 100 percent natural cork bark and recycled cork granules and set in a natural or synthetic, flexible resin matrix; homogeneous and uniform in composition throughout the tile thickness.
    2. Nominal Density: [Manufacturer's standard] [30 lb/cu. ft. (480 kg/cu. m), minimum] [34 lb/cu. ft. (544 kg/cu. m), minimum] [37 lb/cu. ft. (592 kg/cu. m), minimum] <Insert density>.
    3. Nominal Thickness: [0.156 inch (4.0 mm)] [0.180 inch (4.8 mm)] [0.312 inch (8.0 mm)].
    4. Nominal Size: [12 by 12 inches (305 by 305 mm)] [12 by 24 inches (305 by 610 mm)] [24 by 24 inches (610 by 610 mm)] <Insert dimensions>.
    5. Colour: [Light natural] [Medium natural] [Dark natural] [As indicated by manufacturer's designations] [Match Architect's sample] <Insert colour>.
    6. Factory Finish: [Sanded or unfinished] [Waxed] [Polyurethane] [Polyurethane containing UV inhibitors] [Acrylic] [As indicated by manufacturer's designations] [Match Architect's sample] <Insert finish>.
  1. cork floating floor system

SPEC NOTE: Edit the following subparagraphs to reflect the cork floating flooring system selected on this Project. Delete the following if not required.

* + 1. Construction: Laminated planks made of two cork layers, top and bottom, that sandwich a medium-density fiberboard core.
    2. Plank Density:
       1. Cork Top Layer: [28 lb/cu. ft. (448 kg/cu. m)] [Manufacturer's standard density] <Insert density>.
       2. Interlocking Medium-Density Fiberboard Core: [45 lb/cu. ft. (720 kg/cu. m)] [Manufacturer's standard density] <Insert density>.
       3. Cork Underlayment Layer: [13 lb/cu. ft. (208 kg/cu. m)] [Manufacturer's standard density] <Insert density>.
    3. Plank Thickness: [0.450-inch (11.4-mm)] [Manufacturer's standard] <Insert thickness> overall nominal thickness made up as follows:
       1. Cork Top Layer: [0.125-inch (3.2-mm)] [Manufacturer's standard] <Insert thickness> nominal thickness.
       2. Interlocking Medium-Density Fiberboard Core: [0.250-inch (6.3-mm)] [Manufacturer's standard] <Insert thickness> nominal thickness.
       3. Cork Underlayment Layer: [0.078-inch (2.0-mm)] [Manufacturer's standard] <Insert thickness> nominal thickness.
    4. Plank Size: [36 by 12 inches (900 by 305 mm)] <Insert dimensions>.
    5. Plank Edge: [Tongue-and-groove type] [Manufacturer's standard interlock].
    6. Colour: [Light natural] [Medium natural] [Dark natural] [As indicated by manufacturer's designations] [Match Architect's sample] <Insert colour>.
    7. Pattern: [As indicated by manufacturer's designations] [Match Architect's sample] <Insert pattern>.
    8. Factory Finish: [Sanded or unfinished] [Waxed] [Polyurethane] [Polyurethane containing UV inhibitors] [Acrylic] [As indicated by manufacturer's designations] [Match Architect's sample] <Insert finish>.
  1. accessories
     1. Trowelable Leveling and Patching Compounds: Latex-modified, Portland-cement-based or blended hydraulic-cement-based formulation provided or approved by cork flooring manufacturer for applications indicated, as indicated in Section 03 35 00 – Concret Finishing.
     2. Vapor Retarder: ASTM D 4397, polyethylene sheet not less than 8.0 mils (0.2 mm) thick.
     3. Adhesives: Water-resistant type recommended by flooring and adhesive manufacturers to suit cork flooring and substrate conditions indicated.
  2. field applied finishes
     1. Sealer: Product as recommended by cork flooring manufacturer.

SPEC NOTE: Retain "Paste Wax" Paragraph below for sanded or unfinished cork flooring to receive field-applied paste wax finish and for cork flooring with factory-applied paste wax finish to receive additional field-applied paste wax coats.

* + 1. Paste Wax: Products as recommended by cork flooring manufacturer.

SPEC NOTE: Retain "Finish Coatings" Paragraph below for sanded or unfinished cork flooring to receive field-applied finish coatings. Insert requirements for coloured stain if any. Consider requiring field-applied finish coatings applied over cork flooring with factory-applied acrylic or polyurethane finish; consult manufacturers for recommendations.

* + 1. Finish Coatings: Products [ containing UV inhibitors] as recommended by cork flooring manufacturer.

1. Execution
   1. EXAMINATION
      1. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
         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 adhesion of cork flooring.
      2. Proceed with installation only after unsatisfactory conditions have been corrected.
   2. preparation
      1. Prepare substrates according to cork flooring manufacturer's written instructions to ensure adhesion of cork flooring.
      2. Concrete Substrates: Prepare according to ASTM F 710.
         1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
         2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by cork flooring manufacturer. Do not use solvents.
         3. Alkalinity and Adhesion Testing: Perform tests recommended by cork flooring manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
         4. Moisture Testing: Perform tests so that each test area does not exceed 18.6 sq. m (200 sq.ft.) and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
            1. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 1.36 kg of water/92.9 sq. m (3 lb of water/1000 sq. ft.) in 24 hours.
            2. 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.
      3. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
      4. Do not install cork flooring until materials are the same temperature as space where they are to be installed.
         1. At least seventy-two (72) hours in advance of installation, move cork flooring products and installation materials into spaces where they will be installed.
      5. Immediately before installation, sweep and vacuum clean substrates to be covered by cork flooring.

SPEC NOTE: Delete the following if not required on the Project.

* 1. floor tile installation
     1. Comply with manufacturer's written instructions for installing cork flooring.
     2. Mix together floor tiles from each carton to ensure uniform distribution of shade.
     3. Discard broken, cracked, chipped, or deformed floor tiles.
     4. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
     5. Lay floor tiles [square with room axis] [at a 45-degree angle with room axis] [in ashlar or staggered joint pattern] [in pattern indicated].
     6. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
     7. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
     8. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other non-permanent marking device.
     9. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in installation areas. Maintain overall continuity of appearance between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.
     10. Adhere floor tiles to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

SPEC NOTE: Delete the following if not required on the Project.

* 1. cork floating floor system installation
     1. Comply with manufacturer's written instructions for installing cork floating floor system.
     2. Install continuous vapor retarder over substrate, taping side and end laps.
     3. Mix floor planks from several cartons to ensure uniform distribution of shade.
     4. Discard broken, cracked, chipped, or deformed floor planks.
     5. Do not attach floor planks to substrate.

SPEC NOTE: Retain first paragraph below if plank edges are adhered.

* + 1. Tightly interlock and adhere plank edges with adhesive. Remove excess adhesive from top surface of planks.
    2. Lay floor planks [in pattern indicated].
    3. Use spacers to keep floor planks from shifting as subsequent rows are added. Remove spacers after installing cork floating floor system.
    4. Maintain expansion space at walls and other obstructions and terminations of flooring of not less than 9.5 mm (3/8”).
    5. Extend floor planks into toe spaces, door reveals, closets, and similar openings. Extend floor planks to center of door openings.
    6. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor planks as marked on substrates. Use chalk or other non-permanent marking device.
  1. field-applied finishes
     1. Apply finishes according to cork flooring manufacturer's written instructions.

SPEC NOTE: Retain "Cork Sealer" Paragraph below for cork rubber tile and for sanded or unfinished cork flooring to receive field-applied sealer. Consider requiring sealer applied over cork flooring with factory-applied acrylic or polyurethane finish; consult manufacturers for recommendations.

* + 1. Cork Sealer: Apply [**one**] [**two**] coat(s).

SPEC NOTE: Retain "Paste Wax" Paragraph below for sanded or unfinished cork flooring to receive field-applied paste wax finish and for cork flooring with factory-applied paste wax finish to receive additional field-applied paste wax coats.

* + 1. Paste Wax: Apply [**one**] [**two**] [**three**] coat(s).

SPEC NOTE: Retain "Finish Coatings" Paragraph below for sanded or unfinished cork flooring to receive field-applied finish coatings. Insert requirements for coloured stain if any. Consider requiring field-applied finish coatings applied over cork flooring with factory-applied acrylic or polyurethane finish; consult manufacturers for recommendations.

* + 1. Finish Coatings: Apply [**two**] [**three**] coat(s).
  1. cleaning and protection
     1. Comply with manufacturer's written instructions for cleaning and protecting cork flooring.
     2. Perform the following operations immediately after completing cork flooring installation:
        1. Remove blemishes from surfaces.
        2. Remove installation adhesive from surfaces.
        3. Sweep and vacuum surfaces thoroughly.
        4. Damp-mop surfaces to remove marks and soil.
     3. Protect cork flooring from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
     4. Cover cork flooring until Substantial Completion.

END OF SECTION