

## SECTION 09 65 19 – RESILIENT TILE FLOORING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Provide the work of this Section in accordance with requirements of the Contract Documents.
- B. Section Includes:
  - 1. Solid vinyl floor tile **RF-01, RF-03.**
  - 2. Vinyl composition floor tile **RF-02.**
- C. Related Requirements:
  - 1. Division 03, Section 03 30 00 "Cast-In-Place Concrete" for floor tolerances for new concrete floors.
  - 2. Division 03, Section 03 46 16 "Hydraulic Cement Underlayment" for underneath resilient floor tile.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: Technical data, installation instructions, and maintenance procedures for each product specified for each type of product.
- B. Sustainable Design Submittals:
  - 1. Building Product Disclosure and Optimization - Sourcing of Raw Materials:
    - a. Extended Producer Responsibility (EPR): Submit documentation indicating that manufacturers have a take back or recycling program for the product purchased.
    - b. Bio-based Materials: For bio-based products and materials other than wood, submit documentation of product data and testing results in compliance with LEED requirements.
    - c. Recycled Content: For products having recycled content, indicate percentages by weight of post-consumer and pre-consumer recycled content.
      - 1) Include statement indicating costs for each product having recycled content.
    - d. Regional Materials: For products that are required to comply with requirements for regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material.
      - 1) Include statement indicating distance to Project, cost for each regional material and the fraction by weight that is considered regional.
  - 2. Indoor Environmental Quality, Low Emitting Materials: Building Products must be tested and compliant with the California Department of Public-Health (CDPH) Standard Method v1.2 2017, using the applicable exposure scenario.
    - a. Adhesives and Sealants: For wet applied on-site products, submit printed statement showing compliance with the applicable chemical content requirements of SCAQMD Rule 1168, effective July 1, 2005, and rule amendment date of January 7, 2005.

- b. For Flooring products, submit documentation of VOC emissions testing compliance for hard surface flooring products, containing any material in addition to composite wood, in the form of Floorscore certification or CDPH Standard Method v1.2 compliance verification.
- C. Shop Drawings: Submit for each type of resilient flooring. Include floor covering layouts, edges, columns, doorways, enclosing partitions, built in furniture, cabinets, and cutouts.
  - 1. Show details of special patterns.
- D. Samples: Submit full size units of each color and pattern of floor tile required showing full range of variations anticipated.

### 1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: Submit data for Installer.
- B. Product Test Reports:
  - 1. Submit test result for vapor and moisture testing.
  - 2. Submit test reports for alkalinity and adhesion testing.
- C. Sustainable Design Submittals:
  - 1. Building Product Disclosure and Optimization - Environmental Product Declarations
    - a. Submit product specific type III EPDs or Industry wide (generic) EPDs, USGBC approved program declaration or products with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044 that have at least a cradle to gate scope.
  - 2. Building Product Disclosure and Optimization - Material Ingredients
    - a. Material Ingredient Reporting: Submit documentation confirming chemical inventory of products to at least 0.1 % (1000ppm) with at least one of the following:
      - 1) Submit published manufacturer inventory of ingredients identified by name and Chemical Abstract Service Registration Number (CASRN)
      - 2) Submit documentation that product has been certified as Cradle-to-Cradle v3 at the Bronze Level or better
      - 3) Submit Declare product label indicating that all ingredients have been disclosed down to 1000 ppm or designated as Red List Free or Declared
      - 4) Living Product Challenge
      - 5) Product Lens Certification
      - 6) USGBC approved program.
    - b. Material Ingredient Optimization: Submit documentation confirming chemical inventory of products to at least 0.01 % (100ppm) and/or that has a compliant material ingredient optimization report with at least one of the following:
      - 1) Submit GreenScreen V1.2 Benchmark: Third party report prepared by a licensed GreenScreen List Translator, or a full GreenScreen Assessment.
      - 2) Submit third-party verified documentation that product has been certified as Cradle-to-Cradle v3 at the Bronze Level or better
      - 3) Submit third-party verified Cradle to Cradle v3 Material Health certificate at the Bronze Level or better
      - 4) Submit third-party verified Declare product label indicating that all ingredients have been disclosed down to 100 ppm

- 5) Submit third-party verified documentation that product is Living Product Challenge certified with a Red List Free or LBC Red List Free Declare label.
- 6) Submit documentation that product has a manufacturer prepared action plan with material inventory to at least 1000 ppm.

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Maintenance Data: Submit data for each type of floor tile to include in maintenance manuals.

#### **1.5 QUALITY ASSURANCE**

- A. Installer Qualifications: Entity having minimum 5 years documented experience who employs trained or certified by manufacturer for required installation techniques and are competent in techniques required for resilient flooring.
  1. Engage an installer who employs workers trained or certified by resilient flooring manufacturer for installation techniques required.
- B. Source Limitations:
  1. Tile: Obtain floor products of same type and color or finish from one source or producer. Obtain tile from same production run and of consistent quality in appearance and physical properties for each contiguous area.
  2. Setting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.
- C. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
  1. Coordinate mockups in this Section with mockups specified in other Sections.
    - a. Size: Minimum 100 sq. ft. (9.3 sq. m) for each type, color, and pattern in locations directed by Architect.
  2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 degrees F (10 degrees C) or more than 90 degrees F (32 degrees C). Store floor tiles on flat surfaces.

#### **1.7 FIELD CONDITIONS**

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 degrees F (21 degrees C) or more than 95 degrees F (35 degrees C), in spaces to receive floor tile during the following periods:

1. 48 hours before installation.
  2. During installation.
  3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 degrees F (13 degrees C) or more than 95 degrees F (35 degrees C).
- C. Close spaces to traffic during floor tile installation.
- D. Close spaces to traffic for 48 hours after floor tile installation.
- E. Install floor tile after other finishing operations, including painting, have been completed.

## 1.8 EXTRA MATERIALS

- A. 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.
1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Fire Test Response Characteristics: For resilient floor tile, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.
- B. Low-Emitting Materials:
1. Adhesives and Sealants wet-applied inside the weather-proofing system must meet the VOC general emissions testing criteria of CDPH Standard Method v1.2.
  2. All adhesives and sealants wet-applied inside the weather-proofing system must have VOC content in compliance with the applicable VOC limits (g/L) found in tables in Division 01, Section 01 81 13.14 "Sustainable Design Requirements - LEED v4 BD+C."
  3. All flooring products must be Floorscore certified or compliant with the VOC emissions testing criteria of CDPH Standard Method v1.2.

### 2.2 RESILIENT TILE FLOORING

- A. Luxury Vinyl Floor Tile **RF-01**:
1. Product: Shaw Contract Terrain II 30 Mil 0892V.
  2. Color: Nest 00774.
  3. Size: 6inches wide x 48 inches length nominal.
  4. Thickness: 1/8 inch
  5. Include Verashield moisture barrier.
  6. Minimum DCOF: 0.6.

- B. Vinyl Composite Floor Tile **RF-02**:
  - 1. Basis-of-Design Product: Armstrong Standard Excelon; Imperial Texture.
  - 2. Tile Standard: ASTM F 1066. Class: Class II, Through Pattern.
  - 3. Thickness: 1/8-inch.
  - 4. Size: 12 by 12-inches, nominal.
  - 5. Colors and Patterns: 51904 Sterling.
- C. Luxury Vinyl Floor Tile **RF-03**:
  - 1. Product: Shaw Contract Terrain II 30 Mil 0892V.
  - 2. Color: Echo 00775
  - 3. Size: 6inches wide x 48 inches length nominal.
  - 4. Thickness: 1/8 inch
  - 5. Include Verashield moisture barrier.
  - 6. Minimum DCOF: 0.6.

## 2.3 INSTALLATION MATERIALS

- A. Trowelable Patching Compounds: Latex modified, Portland cement based or blended hydraulic cement-based formulation provided or approved by floor tile manufacturer for applications indicated.
- B. Adhesives: Water resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.
- C. Vinyl Composite Tile Floor Polish: Provide protective, liquid floor polish products recommended by floor tile manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for maximum moisture content and other conditions affecting performance of the work.
  - 1. Verify finishes of substrates comply with specified tolerances and requirements and substrates are free of cracks, ridges, depressions, scale, and foreign deposits that interfere with adhesion of floor tile.
  - 2. New concrete floor tolerances shall comply with Division 03, Section 03 30 00 "Cast-In-Place Concrete". Out of floor tolerances shall be communicated to Architect and Structural Engineer.
- B. Proceed with installation after correcting unsatisfactory conditions.

### 3.2 PREPARATION

- A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F 710.

1. Verify substrates are dry and free of curing compounds, sealers, and hardeners.
  2. Remove substrate coatings and substances incompatible with adhesives and contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
  3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation 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 200 sq. ft. (18.6 sq. m), and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
    - a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
    - b. 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.
  5. Perform additional moisture and vapor tests recommended by manufacturer. If substrates fail to meet manufacturers recommended moisture content, remediate moisture. Proceed with floor covering installation after substrates past testing.
- C. Moisture Remediation: Provide moisture vapor emissions control system specified in Division 09, Section 09 05 61 "Moisture Vapor Emission Control" should the moisture test results indicated the concrete substrate fails to obtain the minimum moisture vapor emissions rate required by the flooring covering manufacturer.
- D. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- E. Do not install floor tiles until materials are the same temperature as installation space.
1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.
- F. Immediately before installation, sweep and vacuum clean substrates covered by resilient floor tile.

### 3.3 INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. 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.
  1. Lay tiles in pattern indicated.
- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
  1. Lay tiles in pattern of colors and sizes indicated.
- D. 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.

- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. 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 nonpermanent marking device.
- G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.
- H. 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.

### **3.4 CLEANING AND PROTECTION**

- A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.
- B. Perform the following operations immediately after completing floor tile installation:
  - 1. Remove adhesive and other blemishes from surfaces.
  - 2. Sweep and vacuum surfaces thoroughly.
  - 3. Damp mop surfaces to remove marks and soil.
- C. Protect floor tile from marks, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Vinyl Composite Tile Floor Polish:
  - 1. Remove soil, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.
  - 2. Apply two coat(s).
- E. Cover floor tile until Substantial Completion.

### **END OF SECTION**