

## SECTION 09660 - RESILIENT TILE FLOORING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

- 1. Solid vinyl floor tile.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Sustainable Design Submittals:
  - 1. Laboratory Test Reports: For flooring products, indicating compliance with requirements for low-emitting materials.
- C. Shop Drawings: For each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
  - 1. Show details of special patterns.
- D. Samples: Full-size units of each color and pattern of floor tile required.
- E. Product Schedule: For floor tile. [Use same designations indicated on Drawings.]

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

#### 1.5 CLOSEOUT SUBMITTALS

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

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Floor Tile: Furnish 100 sf of each color pattern of floor tile installed.

#### 1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer with a minimum of 5 years commercial resilient flooring installation experience, and who employs workers for this Project who are competent in techniques required by manufacturer for floor tile installation and seaming method indicated.
  1. Engage an installer who employs workers for this Project who are trained or certified by floor tile manufacturer for installation techniques required.
- B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  1. Build mockups for floor tile including resilient base and accessories.
    - a. Size: Minimum 100 sq. ft. (9.3 sq. m) for each type, color, and pattern
  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.

#### 1.8 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 deg F (10 deg C) or more than 90 deg F (32 deg C). Store floor tiles on flat surfaces.

#### 1.9 FIELD CONDITIONS

- A. HVAC system should be operational and running for a minimum of 7 days prior to resilient tile installation and remain running after resilient tile installation.
- B. Maintain ambient temperatures within range recommended by manufacturer, but not less than 65 deg F (18 deg C) or more than 85 deg F (29 deg C), in spaces to receive floor tile during the following time periods:
  1. 48 hours before installation.
  2. During installation.
  3. Permanently after installation.
- C. Close spaces to traffic during floor tile installation.
- D. Close spaces to traffic, all heavy rolling loads, and point loads for 48 to 72 hours after floor tile installation.
- E. Install floor tile after other finishing operations, including painting, have been completed.

## 1.10 WARRANTY

- A. Special Warranty for Resilient Tile; Manufacturer agrees to repair or replace defective material within specified warranty period.
  - 1. Warranty does not include installer's workmanship.
  - 2. Resilient tile must be installed and maintained according to manufacturer's recommendations.
  - 3. Warranty Period:
    - a. Manufacturing Defects Warranty: 10 years.
    - b. Limited Commercial Wear Warranty: 10 years.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For resilient tile flooring, 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. Flooring products shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

### 2.2 SOLID VINYL FLOOR TILE

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Patcraft Click Refresh I600V or approved equal.
- B. Tile Standard: ASTM F 1700.
  - 1. Class: Class III, printed film vinyl tile.
  - 2. Type: B Embossed.
- C. Overall Thickness: 13/64" (5 mm).
- D. Wear Layer: 20 mil (0.5 mm) ExoGuard™ Quartz Enhanced Urethane.
- E. Wear Layer Thickness: 0.020 inch (0.5 mm).
- F. LVT with In\*Step™ Locking System
- G. Size: 7.28" (185mm) x 47.10" (1196mm).
- H. Colors and Patterns: As selected by Architect from full range of manufacturer's designations.
- I. Test Data:

1. Slip Resistance: ASTM D 2047, ADA Compliant.
2. Static Load Limit, ASTM F 970: 1000 psi (lbs.sq.in) – 0.005 in.
3. Residual Indentation, ASTM 1914: Passes < 8%
4. Flexibility, ASTM F 137: Passes.
5. Dimensional Stability: Federal Standard #501A, Method 6211: <0.02"/ft., Passes
6. Resistance to Heat, ASTM F 1514: Passes.
7. Resistance to Light, ASTM F 1515: Passes.
8. Resistance to Chemicals, ASTM 925: Passes.
9. Resistance to Fungi, ASTM G 21: Passes, Rate zero (Rate zero: Fungi Free).
10. Antibacterial Activity, AATCC 147: Passes, resists the propagation of bacteria.
11. Radiant Flux, ASTM E 648: greater than 0.45 watts/cm, NFPA Class I.
12. Smoke Density, ASTM E 662: less than 450, Passes.
13. IIC Sound Rating, ASTM E 492: 56 when tested over 6" concrete with ceiling plenum

### 2.3 INSTALLATION MATERIALS

- A. Trowel-able Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.
- B. Floor Polish: Floor Finish is optional. If floor finish is desired, provide protective, neutral pH liquid floor-polish products recommended by floor tile manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. 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 floor tile.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 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 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 floor tile manufacturer. Do not use solvents.

3. Moisture Testing: Proceed with installation only after substrates pass testing according to floor tile manufacturer's written recommendations, but not less stringent than the following:
  - a. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates are below 95 percent relative humidity level.
- C. Fill cracks, holes, and depressions in substrates with trowel-able leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor tiles until they are the same temperature as the space where they are to be installed.
  1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

### 3.3 FLOOR TILE 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 square with room axis.
- 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 with grain running in one direction 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 other nonpermanent marking device.
- G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in finished floor 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. Loose lay and click together floor tiles to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of 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 exposed surfaces.
  - 2. Sweep and vacuum surfaces thoroughly.
  - 3. Damp-mop surfaces to remove marks and soil.
- C. Protect floor tile from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Optional Floor Polish: Remove soil, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.
- E. Cover floor tile until Substantial Completion.

END OF SECTION 096519