

**SECTION 09651  
RESILIENT TILE FLOORING**

**PART I - GENERAL**

1.01 DESCRIPTION

- A. Scope: Work under this Section shall include all materials and installation necessary to provide Resilient Tile Flooring as shown and detailed on the Drawings and specified herein and includes:

**(\*\*CONSULTANT TO EDIT AS APPLICABLE\*\*)**

1. Vinyl Composition Floor Tile
  2. Rubber Floor Tiles
- B. Related Sections include the following:
1. Division 9 – RESILIENT WALL BASE and ACCESSORIES for resilient wall base, reducer strips, and other accessories installed with resilient floor tiles.

1.02 SUBMITTALS

- A. Product Data: For each type of product specified.
- B. Samples for Verification: Sample tiles of each color and pattern of resilient floor tile specified, showing the full range of variations characteristics.
1. For resilient tiles, manufacturer's standard-size samples.
- C. Product Certificates: Signed by manufacturers of resilient products certifying that each product furnished complies with requirements.
- D. Maintenance Data: For resilient floor tile to include in the maintenance manuals specified in Division 1.

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer to perform work of this Section who has specialized in installing resilient products similar to those required for this Project and with a record of successful in-service performance.
- B. Source Limitations: Obtain each type, color, and pattern of product specified from one source and dye lot per room with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.
- C. Fire Test Response Characteristics: Provide products with the following fire-test response characteristics as determined by testing identical products per test method indicated below by a testing and inspecting agency acceptable to authorities having jurisdiction.
1. Critical Radiant Flux: 0.45 watts/ cm<sup>2</sup> or greater when tested per ASTM 648.

2. Smoke Density: Maximum specific optical density of 450 or less when tested per ASTM E 662.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to Project site in manufacturer's original, unopened cartons and containers, each bearing names of product and manufacturer, Project identification, including dye lot number and shipping and handling instructions.
- B. Store products in dry spaces protected from the weather, with ambient temperatures maintained between 50° and 90°F.
- C. Store tiles on flat surfaces with cartons upright.
- D. Move products into spaces where they will be installed at least 48 hours before installation, unless longer conditioning period is recommended in writing by manufacturer.

#### 1.05 PROJECT CONDITIONS

- A. Maintain a temperature of not less than 65°F or more than 100°F in spaces to receive products for at least 48 hours prior to installation, during installation, and for at least 48 hours after installation, unless manufacturer's written recommendations specify longer time periods. After post-installation period, maintain a temperature of not less than 55°F or more than 95°F.
- B. Condition all flooring materials and adhesives to room temperature prior to starting installation at the space where they are to be installed.
- C. Cordon off spaces to traffic during flooring installation and for time period after installation recommended in writing by manufacturer.
- D. Install tiles and accessories after other finishing operations, including painting, have been completed.
- E. Do not install flooring over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive. See 3.1 "Examination" of this Specification.

#### 1.06 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents and Project location.
  1. Furnish not less than one box for each 50 boxes or fraction thereof, of each type, color, pattern, class, wearing surface, and size of resilient tile flooring installed.
  2. Furnish not less than 10 linear feet for each 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient accessory installed.
  3. Deliver extra materials to University.

## **PART II - PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, those indicated in the Resilient Tile Flooring Schedule at the end of Part 3.
- B. Products: Subject to compliance with requirements, provide one of the products indicated for each designation in the Resilient Tile Flooring Schedule at the end of Part 3.
- C. Manufacturers: Nora System, Mannington, Armstrong, Tarket, Azrock, or equal.

### **2.02 RESILIENT TILE**

- A. Mannington, Essentials Color #131 Oyster White
- B. Vinyl Composition Floor Tile: Products complying with ASTM F 1066 and with requirements specified in the Resilient Tile Flooring Schedule.

### **2.03 INSTALLATION ACCESSORIES**

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by flooring manufacturer for applications indicated.
- B. Stair-Tread-Nose Filler: Two-part epoxy compound recommended by resilient tread manufacturer to fill nosing substrates that do not conform to tread contours.
- C. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
- D. Metal Edge Strips: Extruded aluminum with mill finish of width shown, of height required to protect exposed edge of tiles, and in maximum available lengths to minimize running joints.

## **PART III - EXECUTION**

### **3.01 EXAMINATION**

- A. Examine substrates, areas, and conditions where installation of resilient products will occur, with Installer present, for compliance with manufacturer's requirements. Verify that substrates and conditions are free of defects and fully comply with manufacturer's specified requirements for resilient product installation. Determine adhesion and dryness by performing flooring manufacturers recommended bond test and ASTM Standard F2170 test method using in Situ Probes to test for relative humidity. Concrete slabs moisture levels cannot exceed manufacturer's recommendations for moisture. Provide University's Representative with test results prior to installation for all concrete slabs.

- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
  - 1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing a bond test and a F2170 test method using in Situ Probes. Report all test results to the University's Representative.
  - 2. Subfloor finishes comply with requirements specified in "Division 3, Section 03300 – Cast-in-Place" Concrete for slabs receiving resilient flooring.
  - 3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.
- C. Do not proceed with installation until unsatisfactory conditions have been corrected including but not limited to excessive moisture mitigation – refer to section 07264 Water Vapor Emission Control Barrier.

### 3.02 PREPARATION

- A. General: Comply with resilient product manufacturer's written installation instructions for preparing substrates indicated to receive resilient products.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
- C. Use stair-tread-nose filler, according to resilient tread manufacturer's written instructions, to fill nosing substrates that do not conform to tread contours.
- D. Remove coatings, including curing compounds, and other substances that are incompatible with flooring adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
- E. Broom and vacuum clean substrates to be covered immediately before product installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.03 TILE INSTALLATION

- A. General: Comply with tile manufacturer's written installation instructions.
- B. Lay out 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 of a tile at perimeter.
  - 1. Lay tiles square with room axis, unless otherwise indicated.
- C. Match tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Cut tiles neatly around all fixtures. Discard broken, cracked, chipped, or deformed tiles.
  - 1. Lay all tiles with grain running in north/south direction. Do not quarter turn tiles.
  - 2. Lay tiles in pattern of colors and sizes indicated on Drawings.

- D. Scribe, cut, and fit tiles to butt neatly and tightly to vertical surfaces and permanent fixtures, including built-in furniture, cabinets, pipes, outlets, edgings, doorframes, thresholds, and nosings.
- E. Extend tiles into toe spaces, door reveals, closets, and similar openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other nonpermanent, nonstaining marking device.
- G. Install tiles on covers for telephone and electrical ducts, and similar items in finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on covers. Tightly adhere edges to perimeter of floor around and to covers.
- H. Adhere tiles to flooring substrates using a full spread of adhesive applied to substrate to comply with tile manufacturer's written instructions, including those for trowel notching, adhesive mixing, and adhesive open and working times.
  - 1. Provide completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
- I. Hand roll tiles according to tile manufacturer's written instructions.

#### 3.04 RESILIENT ACCESSORY INSTALLATION

- A. General: Install resilient accessories according to manufacturer's written installation instructions, refer to Division 9, Section 09653 – Resilient Flooring Accessories.

#### 3.05 CLEANING AND PROTECTING

- A. Perform the following operations immediately after installing Vinyl Composition resilient products:
  - 1. Remove adhesive and other surface blemishes using cleaner recommended by resilient product manufacturers.
  - 2. Sweep or vacuum floor thoroughly.
  - 3. Do not wash floor until after time period recommended by flooring manufacturer.
  - 4. Damp-mop floor to remove marks and soil.
- B. Perform the following operations immediately after installing Rubber Tiles resilient products: Initial Cleaning performed a minimum of 72 hours after the installation.
  - 1. Remove any adhesive residue.
  - 2. Dust Mop or vacuum floor thoroughly.
  - 3. Wet mop the floor using a diluted initial maintenance product and allow the solution a minimum dwell time of 10 minutes.

4. Scrub the floor thoroughly with a floor scrubber using a 3M #5100 (red) cleaning pad for all rubber tile surfaces and a #5300 (blue) cleaning pad and a high pH cleaner/degreaser for all rubber tiles surfaces.
  5. Wet vacuum the soiled solution, rinse the floor with clean water and allow to dry.
- C. Protect flooring against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by flooring manufacturer.
1. Apply protective floor polish to VCT floor surfaces that are free from soil, visible adhesive, and surface blemishes, if recommended in writing by manufacturer.
    - a. Use commercially available product acceptable to the VCT flooring manufacturer.
    - b. Coordinate selection of floor polish with University's maintenance service.
  2. Cover products installed on floor surfaces with undyed, untreated building paper until inspection for Substantial Completion.
  3. Do not move heavy and sharp objects directly over floor surfaces. Place plywood or hardboard panels over flooring and under objects while they are being moved. Slide or roll objects over panels without moving panels.
- D. Clean floor surfaces not more than 4 days before dates scheduled for inspections intended to establish date of Substantial Completion in each area of Project. Clean products according to manufacturer's written recommendations.
1. Before cleaning VCT tile floors, strip protective floor polish that was applied after completing installation only if required to restore polish finish and if recommended by flooring manufacturer.
  2. After cleaning VCT floor tiles, reapply polish to floor surfaces to restore protective floor finish according to flooring manufacturer's written recommendations. Coordinate with University's maintenance program.
  3. Rubber Floor tiles; after initial cleaning described above, to increase shine the floor dry buff using a 3M #4100 (white) pad

### 3.06 RESILIENT TILE FLOORING SCHEDULE

- A. Vinyl Composition Tile VCT. Where this designation is indicated, provide vinyl composition floor tile complying with the following:

**(\*\*CONSULTANT TO SPECIFY AND EDIT AS APPLICABLE\*\*)**

1. Products: Mannington Commercial, Inc. or equal.
2. Color and Pattern: Essentials, #131 Oyster White
3. Class: Class 2 - through pattern

4. Thickness: 1/8" (3.2 mm)
5. Size: 12" x 12" tile
6. Static Load Limit: 75 psi (5.27 kg/cm<sup>2</sup>) per test method ASTM F 970.
7. Fire Test Data: Class 1.

B. Rubber Floor Tiles Where this designation is indicated, provide vinyl composition floor tile complying with the following:

**(\*\*CONSULTANT TO SPECIFY AND EDIT AS APPLICABLE\*\*)**

1. Products: Noraplan, Degree by Nora Systems Inc. or equal.
2. Color and Pattern:
3. Thickness: 0.12"
4. Size: 24" x 24" tile
5. Static Load Limit: 550 psi, 800 pounds per test method ASTM F 970.
6. Fire Test Data: Class 1.

**END OF SECTION 09651**