

SECTION 09651

RESILIENT TILE FLOORING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Resilient tile flooring and accessories.

1.1 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Plywood subflooring and underlayment.

1.2 REFERENCES

- A. American Association of Textile Chemists and Colorists, AATCC 134 - Electrostatic Propensity of Carpets.
- B. ASTM International (ASTM):
 1. ASTM C 1028 - Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
 2. ASTM D 2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials.
 3. ASTM D 3884 - Standard Guide for Abrasion Resistance of Textile Fabrics (Rotary Platform, Double-Head Method), Abrasion Wheels- H18 with 1000grams load.
 4. ASTM E 492 - Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine.
 5. ASTM E 662 - Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
 6. ASTM E 648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
 7. ASTM E 989 - Standard Classification for Determination of Impact Insulation Class (IIC).
 8. ASTM F 137 - Standard Test Method for Flexibility of Resilient Flooring Materials with Cylindrical Mandrel Apparatus.
 9. ASTM F 386 - Standard Test Method for Thickness of Resilient Flooring Materials Having Flat Surfaces.
 10. ASTM F 925 - Standard Test Method for Resistance to Chemicals of Resilient Flooring.
 11. ASTM F 970 - Standard Test Method for Static Load Limit.
 12. ASTM F 1514 - Standard Test Method for Measuring Heat Stability of Resilient Flooring by Color Change.
 13. ASTM F 1515 - Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change.
 14. ASTM F 1700 - Standard Specification for Solid Vinyl Floor Tile.
 15. ASTM F 1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 16. ASTM F 1914 - Standard Test Methods for Short-Term Indentation and Residual Indentation of Resilient Floor Covering.
 17. ASTM F 2055 - Standard Test Method for Size and Squareness of Resilient Floor Tile by Dial Gage Method.
 18. ASTM F 2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
 19. ASTM F 2199 - Standard Test Method for Determining Dimensional Stability

of Resilient Floor Tile after Exposure to Heat.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Provide detailed data on each product to be used including but not limited to the following information as applicable:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Maintenance recommendations.
- C. Selection Samples: For each finish product specified, two sets of each type, colors and finish of resilient flooring and accessory required, indicating full range of color and pattern variation.
- D. Verification Samples: For each finish product specified, two sets of each type, colors and finish of resilient flooring and accessory required, indicating color and pattern of actual product, including variations, as proof of application compliance.
- E. Closeout Submittals: Submit three copies of the following:
 - 1. Maintenance and operation data includes - methods for maintaining installed products, and precautions against cleaning materials and methods detrimental to finishes and performance.
 - 2. Documentation of warranty specified herein.
- F. Flame Spread Certification: Submit manufacturer's certification that resilient flooring furnished for areas indicated to comply with required flame spread rating has been tested and meets or exceeds indicated or required standard.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum two years experience and completed at least three projects of similar magnitude, material and complexity. Upon request, provide project references including contact names and telephone numbers for three projects.
- B. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, sheen and finished appearance are approved by Architect.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Flooring material and adhesive shall be acclimated to the installation area for a minimum of 48 hours prior to installation.
- C. Store cartons of tile products flat and squarely on top of one another, not on edge.
- D. Store tubes of feature strips and borders in a horizontal position. Storage in a vertical or inclined position causes uneven weight distribution, which will spaghetti the ends of the feature strips. Store all tubes laying flat.

1.6 PROJECT CONDITIONS

- A. Environmental Requirements/Conditions: In accordance with manufacturer's recommendations. Areas to receive flooring shall be clean, fully enclosed, weather tight with the permanent HVAC set at a uniform temperature of at least 65 degrees F (18 degrees C) and less than 85 degrees (30 degrees C) 48 hours prior to and during and for not less than 48 hours after installation. The flooring material shall be conditioned in the same manner prior to installation.
- B. Close spaces to traffic during resilient flooring installation and for a period of time after installation as recommended in writing by the manufacturer.
- C. Install resilient flooring materials and accessories after other finishing operations, including painting, have been completed.
- D. Where demountable partitions and other items are indicated for installation on top of sheet resilient flooring material, install flooring material before these items are to be installed.
- E. Concrete substrates should not exceed 82 percent RH and/or 6 lbs. X 24 hrs. X 1000 sf. moisture vapor emissions rate tested in accordance to ASTM F 2170 and ASTM F 1869.
- F. Store tubes of feature strips and borders in a horizontal position. Storage in a vertical or inclined position causes uneven weight distributions, which will spaghetti the ends of the feature strips. Store all tubes laying flat.

1.7 WARRANTY

- A. Warranty Period: Manufacturer's standard warranty against manufacturing defects and wearing for flooring and as follows:
 - 1. 10 year commercial warranty.

1.8 EXTRA MATERIALS

- A. Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 closeout submittals requirements.
 - 1. Quantity: Furnish quantity of flooring units equal to 2 percent of amount installed. Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Mohawk Select Step Luxury Vinyl Tile, which is located at: 160 S. Industrial Blvd, Calhoun, GA 30701; Toll Free Tel: 888-740-6936; Web: www.mohawkgroup.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 RESILIENT TILE FLOORING (LVT)

Resilient Tile Flooring: Mohawk Select Step Luxury Vinyl Tile (Basis of Design)

- 1. Dimensions: 48 inches by 6 inches
- 2. Material Compliance: ASTM F 1700, BS EN 649, BSEN 654.
 - a. Reaction to Fire: ASTM E 662, ASTM E 648.

- b. Slip Resistance: ASTM C 1028, R9 classification.
3. Antimicrobial Properties: AATCC Method 174, Part 174.
4. Wear Layer Thickness: 20 mil (0.5 mm).
5. Tile Thickness: 3 mm.
6. Edge: Non-beveled edge.
7. Item Number and Name:
 - a. TBD from standard colors

2.3 ACCESSORIES

- A. Manufacturer's Floor Care Kit with cleaning and maintenance products in quantities appropriate to size and scope of resilient flooring application are available but not required.
- B. Adhesive: Manufacturer's recommended adhesive as follows.
 1. Manufacturer's Epoxy adhesive.
 - a. Provide manufacturer's recommended concrete floor sealer for high moisture applications.
 2. Manufacturer's 332 acrylic "wet set" adhesive.
 - a. Provide manufacturer's recommended concrete floor sealer for high moisture applications.
 3. Manufacturer's pressure sensitive adhesive.
 - a. Provide manufacturer's recommended concrete floor sealer for high moisture applications.
- C. Portland based cementitious base leveler. Gypsum based not acceptable.
- D. Manufacturer approved substrate board

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect floor to be installed immediately upon arriving at job site; perform a moisture test.
- B. Do not begin installation until substrates have been properly prepared.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- D. The installation of the resilient flooring shall not begin until the work of all other trades has been completed, particularly wet and overhead trades.
- E. Areas to receive flooring shall be adequately lighted during all phases of the installation process.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Using Portland based cementitious base leveler fill and cover all seams, nail heads, voids, cracks, and expansion joints. Achieve smooth, even, firmly attached substrate for best finish results. Gypsum based underlayment not acceptable with Vinyl Flooring unless it is first properly prepared.
 1. Encapsulate the gypsum with a premium latex primer/sealer.
 2. Float with a Portland cement compound using a latex additive (as recommended by the manufacturer) instead of water.
 3. Once substrate levelness is achieved continue with the next step.

- C. Apply concrete floor sealer to substrate in accordance with manufacturer's recommendations.
- D. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- E. Concrete Substrates: The Contractor shall verify to the Owner and install a minimum of 30 days prior to the scheduled resilient flooring installation the following substrate conditions. All substrate testing shall be documented and submitted to the Architect and Owner before commencement of the flooring installation.
 - 1. Verify that substrates are dry, free of debris, and that all curing compounds, sealers, and hardeners have properly cured.
 - 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 manufacturer. Do not use solvents.
 - 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
 - 4. Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.

3.3 INSTALLING RESILIENT TILES AND PLANKS

- A. General:
 - 1. Permanent HVAC system shall be turned on and set to a minimum of 65 degrees F (20 degrees C) for a minimum of 48 hours prior to, during and 48 hours after installation. After the installations, the maximum temperature should not exceed 125 degrees F (37 degrees C).
 - 2. All products must be allowed to acclimate at least 24 to 48 hours before installation. This means product must be placed in the same room as the install that is taking place and removed from its factory packaging.
 - 3. Material shall be visually inspected prior to installation.
 - 4. Ensure that all recommendations for sub-floor and jobsite conditions are met prior to beginning the installation. Once the installation is started, Contractor and installer have accepted those conditions.
 - 5. Install in accordance with manufacturer's installation instructions for each product type and application specified.
- B. Layout and Installation:
 - 1. In order to achieve a random natural wood look, take planks and cut nominal lengths to be used on the first course; example: 10 inches, 40 inches, 15 inches, 25 inches, 8 inches. At the end of the first course, all cut planks remaining should be used on the next course. Position planks so the end seams are no closer than the width of the plank being installed. Maintain this approach to staggering the planks throughout the entire installation.
 - 2. Center tiles or planks in rooms and hallways so borders are not less than half a tile or plank when possible.
 - 3. Cut edges shall always be installed against a wall.
 - 4. Install using tile and plank installation techniques recommended by manufacturer.
 - 5. Install tiles, planks, borders and feature strips in locations and configurations indicated on the Drawings.
- C. Adhesive Application:
 - 1. Any spread glue has to be covered with material and rolled within the recommended time frame described on the adhesive container.
 - 2. If troweled adhesive skims over, scrape up and reapply.
 - 3. Install in accordance with adhesive manufacturer's recommendations.

4. Refer to manufacturer's literature for selection criteria for trowel size, type.
5. Using proper trowel size, apply adhesive in accordance with label on adhesive.
6. Spread a 4 inch wide band of adhesive around the perimeter of the area designated as an extreme condition area.
7. An additional 4 inch band should be spread at approximately 10 foot (3 m) intervals.
8. For transitional areas, from loose lay to another floor covering of a different height, a 4 inch band of adhesive should be spread across the length of the transition.

3.4 CLEANING

- A. Wipe off any adhesive on floor as installation proceeds. Wait 48 hours before applying the cleaning and maintenance products.
- B. Prior to installation of permanent fixtures or furniture, remove all dirt, debris, or residual adhesive and clean the floor. If desired, a protective coating may be applied at this time. Specific products and instructions are available from the manufacturer.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

3.6 MAINTENANCE

- A. Comply with manufacturers instructions for proper cleaning and maintenance of the products.

3.7 SCHEDULE

- A. Refer to the Room Finish Schedule on the architectural drawings for VCT2.

END OF SECTION