

SECTION 096519

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. Rubber floor tile.
- 2. Vinyl composition floor tile.

B. Related Sections:

- 1. Division 09 Section "Resilient Base and Accessories" for resilient base, reducer strips, and other accessories installed with resilient floor coverings.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.

B. LEED Submittals:

- 1. Product Data for Credit MR 2.2: Environmentally Preferable Materials.
 - a. Local production. Provide materials that were extracted, processed, and manufactured within 500 miles of the home.
 - b. Recycled Content: Provide materials that include at least 25% postconsumer or 50% preconsumer (postindustrial) recycled material.
 - c. Low or No emissions of VOC: Provide materials that comply with VOC limits in reference tables.

- C. Samples for Initial Selection: For each type of floor tile indicated.

- D. Samples for Verification: Full-size units of each color and pattern of floor tile required.

- 1. For heat-welding bead, manufacturer's standard-size Samples, but not less than 9 inches long, of each color required.

- E. Product Schedule: For floor tile. Use same designations indicated on Drawings.

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

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor tile installation indicated.
- B. Fire-Test-Response Characteristics: 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.
- C. Preinstallation Conference: Conduct conference at Project site.
 - 1. At least 7 days prior to starting installation of flooring, conduct a meeting to review detailed requirements for materials and to determine procedures for a satisfactory installation of flooring materials.
 - 2. Review methods and procedures related to curing and protection of concrete substrate.
 - 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

1.5 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 or more than 90 deg F. Store floor tiles on flat surfaces.

1.6 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following time periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- 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.

1.7 EXTRA MATERIALS

- 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 1 box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

PART 2 - PRODUCTS

2.1 RUBBER FLOOR TILE

- A. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Johnsonite; Roundel
 - 2. Musson, R. C. Rubber Co.; No. 624DL.
- B. Tile Standard: ASTM F 1344, Class I-A, homogeneous rubber tile, solid color.
- C. Hardness: Not less than 85 as required by ASTM F 1344, measured using Shore, Type A durometer per ASTM D 2240.
- D. Wearing Surface: Molded pattern.
 - 1. Molded-Pattern Figure: Architect to choose from all available patterns in Roundel Line
- E. Thickness: 0.125 inch.
- F. Size: 18-1/8 by 18-1/8 inches or 24 by 24 inches.
- G. Colors and Patterns: As selected by Architect from full range of industry colors.

2.2 VINYL COMPOSITION FLOOR TILE

- A. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Armstrong World Industries, Inc.; Excelon Stonetex.
- B. Tile Standard: ASTM F 1066, Class 2, through-pattern tile.
- C. Wearing Surface: Smooth.
- D. Thickness: 0.125 inch.
- E. Size: 12 by 12 inches.
- F. Colors and Patterns: As selected by Architect from full range of industry colors.

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit floor tile and substrate conditions indicated.
 - 1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. VCT Tile Adhesives: Not more than 50 g/L.

- b. Rubber Floor Adhesives: Not more than 60 g/L.
- C. Floor Polish: Provide protective liquid floor polish products as recommended by 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.
- B. 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.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to 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 manufacturer. Do not use solvents.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor tiles until they are same temperature as space where they are to be installed.
 - 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- E. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.3 SUBSTRATE TESTING

- A. General: Conduct testing using an independent agency with a minimum of five years experience in moisture emission testing or as pre-approved by the manufacturer of the flooring material.
- B. Moisture Emission Testing: Conduct moisture emission testing of concrete slabs-on-grade and elevated slabs to receive floor coverings or coatings by the calcium chloride test method. Perform tests in accordance with ASTM F-1869.
 - 1. Conduct a minimum of three tests for the first 1,000 sq. ft. and one additional test for each additional 1,000 sq. ft.

2. Ambient test environment shall conform to ASTM-1869 and be reflective of the building's normal operational environment.
 3. Conduct tests on bare concrete, free of surface contaminants, adhesives, curing compounds or sealers.
 4. Locate test locations a minimum of five feet from exterior walls or interior walls that penetrate the floor. Do not conduct tests over random cracks or within five feet of control or construction joints.
 5. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
- C. Internal Relative Humidity Testing: Conduct internal relative humidity testing of concrete slabs-on-grade and elevated slabs to receive floor coverings or coatings in accordance with ASTM F-2170.
1. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
- D. Surface Alkalinity Testing: Conduct alkalinity testing of the concrete surface at all moisture emission test locations in accordance with ASTM F710 5.3.1.
- E. Submit all test results to the Architect, flooring installer and manufacturer of the flooring materials before installation of the flooring materials.

3.4 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 direction alternating in adjacent tiles (basket-weave pattern).
- 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, nonstaining marking device.
- G. Adhere floor tiles to flooring 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.

3.5 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of 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 products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Floor Polish: Remove soil, visible adhesive, and surface blemishes from floor tile surfaces before applying liquid floor polish.
 - 1. Apply one coat.
- E. Cover floor tile until Substantial Completion.

END OF SECTION