

RESILIENT TILE FLOORING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section includes resilient tile flooring.
- B. Related Sections:
 - 1. Water vapor emission control systems are specified in Section 09 61 43.
 - 2. Cork tile flooring is specified in Section 09 62 29.16.
 - 3. Resilient base and accessories are specified in Section 09 65 13.

1.02 SUBMITTALS

- A. Product Data: Submit for each type of product specified. Include certification by tile manufacturer that products supplied for tile installation comply with local regulations controlling use of volatile organic compounds (VOC's).
- B. Samples: For verification purposes in full-size tiles of each different color and pattern of resilient floor tile specified, showing full range of variations expected in these characteristics.
- C. Maintenance data for resilient floor tile, to include in Operating and Maintenance Manual.
- D. MSDS data sheets for adhesive.
- E. LEED Submittals:
 - 1. Credit IEQ 4.1: Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.
 - a. Furnish LEED Online Credit Template listing the adhesives and sealants used in the building and declaring that they meet the specified LEED requirements.
 - b. Required Audit Documentation:
 - 1) Product data sheets and MSDS for each adhesive/sealant used on the interior, with the VOC content in g/L circled and indicating VOC content of each product used.
 - 2) Summary table comparing credit VOC requirements and actual VOC levels for each product

1.03 QUALITY ASSURANCE

- A. Single-Source Responsibility for Floor Tile: Obtain each type, color, and pattern of tile from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the work.
- B. Fire Performance Characteristics: Provide resilient floor tile with the following fire performance characteristics as determined by testing products per ASTM test method specified below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. Critical Radiant Flux: 0.45-watts per sq. cm or more per ASTM E648.
 - 2. Smoke Density: Less than 450 per ASTM E662.

- C. All materials shall comply with the requirements of South Coast Air Quality Management District (SCAQMD) Rule 1168 governing the emission of Volatile Organic Compounds.

1.04 ENVIRONMENTAL QUALITY ASSURANCE

- A. Credit IEQ 4.1: Adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the requirements of the following reference standards:

1. Adhesives, Sealants and Sealant Primers: Comply with South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits as follows:

Architectural Applications	VOC Limit g/L less water	Specialty Applications	VOC Limit g/L less water
Indoor Carpet Adhesives	50	PVC welding	510
Carpet pad adhesives	50	CPVC welding	490
Wood flooring adhesives	100	ABS welding	325
Rubber floor adhesives	60	Plastic cement welding	250
Subfloor adhesives	50	Adhesive primer for plastic	550
Ceramic tile adhesives	65	Contact adhesive	80
VCT and asphalt adhesives	50	Special purpose contact adhesive	250
Drywall and panel adhesives	50	Structural wood member adhesive	140
Cove base adhesives	50	Sheet applied rubber lining operations	850
Multipurpose construction adhesives	70	Top and trim adhesive	250
Structural glazing adhesives	100		
Substrate Specific Applications	VOC Limit g/L less water	Sealants	VOC Limit g/L less water
Metal to Metal	30	Architectural	250
Plastic foams	50	Nonmembrane roof	300
Porous material (except wood)	50	Roadway	250
Wood	30	Single-ply roof membrane	450
Fiberglass	80	Other	420
Sealant Primers	VOC Limit (g/L less water)		
Architectural, nonporous	250		
Architectural, porous	775		
Other	750		

2. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000.

Aerosol Adhesives	VOC Limit
General purpose mist spray	65% VOCs by weight
General purpose web spray	55% VOCs by weight
Special purpose aerosol adhesives (all types)	70% VOCs by weight

- B. Applicable LEED Credits:

1. Credit IEQ 4.1 – Low-Emitting Materials - Adhesives and Sealants.

1.05 REGULATORY REQUIREMENTS

- A. Slip Resistant Surfaces: Conform to the more restrictive provisions of Title III of the Americans with Disabilities Act or with California Building Code (CBC).

1. Resilient flooring shall have a coefficient of friction of at least 0.6 per ASTM D2047.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver tiles and installation accessories to Project site in original manufacturer's unopened cartons and containers each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.
- B. Store flooring materials in dry spaces protected from the weather with ambient temperatures maintained between 50-deg. F. and 90-deg. F.

- C. Store tiles on flat surfaces. Move tiles and installation accessories into spaces where they will be installed at least 48-hours in advance of installation.

1.07 PROJECT CONDITIONS

- A. Maintain a minimum temperature of 70-deg. F. in spaces to receive tiles for at least 48-hours prior to installation, during installation, and for not less than 48-hours after installation. After this period, maintain a temperature of not less than 55-deg. F.
- B. Do not install tiles until they are at the same temperature as the space where they are to be installed.
- C. Close spaces to traffic during tile installation.
- D. Provide for continuous ventilation during installation using as close to 100-percent outside air as possible.

1.08 SEQUENCING AND SCHEDULING

- A. Install tiles and accessories after other finishing operations, including painting, have been completed.
- B. Do not install tiles over concrete slabs until the slabs have cured and are sufficiently dry to bond with adhesive as determined by tile manufacturer's recommended bond and moisture test.

1.09 EXTRA MATERIALS

- A. Deliver extra materials to County. Furnish extra materials matching products installed as described below, packaged with protective covering for storage and identified with labels clearly describing contents.
 - 1. Furnish not less than one box for each 50 boxes or fraction thereof, of each class, wearing surface, color, pattern and size of resilient floor tile installed.

PART 2 - PRODUCTS

2.01 RESILIENT TILE FLOORING

- A. Homogenous (Solid) Vinyl Tile: Azrock Industries, Inc., Flexco Company, Kentile Floors, Inc., VPI or approved equal, complying with FS SS-T-312, Type III.
 - 1. Wearing Surface: Smooth.
 - 2. Thickness: 1/8-inch.
 - 3. Size: 12-inch x 12-inch.
 - 4. Color and Pattern: As selected by the County' s Representative from manufacturer's standards.
- B. Molded Pattern Rubber Floor Tile: Armstrong World Industries, Burke Flooring Products, Endura, Mondo Rubber International, VPI or approved equal complying with ASTM F1344.
 - 1. Size: 18.125-inch x 18.125-inch or 19.69-inch x 19.69-inches as standard with manufacturer.
 - 2. Molded Pattern Figure: Raised discs, 0.91- to 1.03-inch diameter.
 - 3. Color: As selected by the County' s Representative from manufacturer's standards.
- C. Smooth Rubber Floor Tile: Armstrong World Industries, Burke Flooring Products, Endura, Mondo Rubber International, VPI or approved equal complying with ASTM F1344.
 - 1. Wearing Surface: Smooth.
 - 2. Thickness: 1/8-inch.
 - 3. Size: 12-inches x 12-inches.

4. Color and Pattern: As selected by the County' s Representative from manufacturer's standards.
- D. Vinyl Composition Floor Tile: Armstrong World Industries, Azrock Industries, Inc., Kentile Floors, Inc., Tarkett, Inc. or approved equal complying with ASTM F1066, Composition 1 (nonasbestos formulated), Class 2.
1. Wearing Surface: Smooth.
 2. Thickness: 1/8-inch.
 3. Size: 12-inches x 12-inches.
 4. Color and Pattern: As selected by the County' s Representative from manufacturer's standards.

2.02 INSTALLATION ACCESSORIES

- A. Concrete Slab Primer: Non-staining type as recommended by flooring manufacturer.
- B. Trowelable Underlayments and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by tile manufacturer.
- C. Adhesives: Provide type and brands of solvent free water-resistant adhesive as recommended by manufacturer of resilient wall base and accessories for conditions of installation.
- D. Chemical-Bonding Compounds: Manufacturer' s product for chemically-bonding seams.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine areas where installation of tiles will occur, with Installer present, to verify that substrates and conditions are satisfactory for tile installation and comply with tile manufacturer's requirements and those specified in this Section.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F710 and the following:
 1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by tile manufacturer.
 2. Finishes of subfloors comply with tolerances and other requirements specified in Section 03 30 00 for slabs receiving resilient flooring.
 3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits of any kind.
- C. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Comply with manufacturer's installation specifications to prepare substrates to receive tile.
- B. Use trowelable leveling and patching compounds per tile manufacturer's directions to fill cracks, holes, and depressions in substrates.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with flooring adhesives and that contain soap, wax, oil, or silicone, by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush.
- D. Broom or vacuum clean substrates to be covered by tiles immediately before tile installation. Following cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust.
- E. Apply concrete slab primer, if recommended by flooring manufacturer, prior to applying adhesive. Apply according to manufacturer's directions.

- F. Test concrete slabs to receive resilient tile flooring for moisture levels as specified in Section 09 61 43.

3.03 INSTALLATION

- A. Comply with tile manufacturer's installation directions and other requirements applicable to each type of tile installation included in Project.
- 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 at perimeter that equal less than one-half of a tile. Install tiles square with room axis.
- C. Match tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged, if so numbered. Cut tiles neatly around all fixtures. Discard broken, cracked, chipped, or deformed tiles.
 - 1. Lay tiles with grain running in one direction.
- D. Where demountable partitions and other items are installed on top of finished tile floor, install tile before these items are installed.
- E. Scribe, cut, and fit tiles to butt tightly to vertical surfaces, permanent fixtures, built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.
- F. Extend tiles into toe spaces, door reveals, closets, and similar openings.
- G. Maintain reference markers, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other nonpermanent marking device.
- H. Adhere tiles to flooring substrates without producing open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections in completed tile installation.
- I. Use full spread of adhesive applied to substrate in compliance with tile manufacturer's directions including those for trowel notching, adhesive mixing, and adhesive open and working times.
- J. Hand roll tiles where required by tile manufacturer.

3.04 CLEANING AND PROTECTION

- A. Perform the following operations immediately after completing tile installation:
 - 1. Remove visible adhesive and other surface blemishes using cleaner recommended by tile manufacturers.
 - 2. Sweep or vacuum floor thoroughly.
 - 3. Do not wash floor until after time period recommended by resilient floor tile manufacturer.
 - 4. Damp-mop tile to remove black marks and soil.
- B. Protect flooring against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended by tile manufacturer.
 - 1. Cover tiles with undyed, untreated building paper until inspection for Acceptance of Work.
 - 2. Do not move heavy and sharp objects directly over tiles. Place plywood or hardboard panels over tiles and under objects while they are being moved. Slide or roll objects over panels without moving panels.

- C. Clean tiles not more than 4-days prior to dates scheduled for final acceptance. Clean tiles using method recommended by manufacturer.

3.05 WASTE MANAGEMENT

- A. General: Comply with Section 01 74 19.
- B. Separate waste and place in the following categories for re-use:
 - 1. Full size tiles.
- C. Close and seal tightly all partly used adhesive containers and store protected in well-ventilated fire-safe area at moderate temperatures.
- D. Place used adhesive tubes and containers in areas designated for hazardous materials.

END OF SECTION