

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 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Luxury Vinyl Tile (LVT)
 - 2. Rubber Stair Treads.
 - 3. Rubber Tile.
 - 4. Vinyl Stair Nosing
 - 5. Resilient wall base and accessories.

1.3 SUBMITTALS

- A. Product Data: For each type of product specified.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of units or sections of units showing the full range of colors and patterns available for each type of product indicated.
- C. Samples for Verification: Full-size tiles of each different color and pattern of resilient floor tile specified, showing the full range of variations expected in these characteristics.
 - 1. For resilient accessories, manufacturer's standard-size samples, but not less than 12 inches (300 mm) long, of each resilient accessory color and pattern specified.
- D. Maintenance Data: For resilient floor tile to include in the maintenance manuals specified in Division 1.

1.4 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 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 W/sq. cm or greater when tested per ASTM E 648.
 - 2. Smoke Density: Maximum specific optical density of 450 or less when tested per ASTM E 662.

1.5 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, and shipping and handling instructions.
- B. Store products in dry spaces protected from the weather, with ambient temperatures maintained between 50 and 90 deg F (10 and 32 deg C).
- C. Store tiles on flat surfaces.
- 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.

1.6 PROJECT CONDITIONS

- A. Maintain a temperature of not less than 65 deg F (18 deg C) or more than 100 deg F (38 deg C) in spaces to receive products for at least 48 hours before installation, during installation, and for at least 48 hours after installation, unless manufacturer's written recommendations specify longer time periods. After postinstallation period, maintain a temperature of not less than 55 deg F (13 deg C) or more than 95 deg F (35 deg C).
- B. Do not install products until they are at the same temperature as the space where they are to be installed.
- C. Close 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. Where demountable partitions and other items are indicated for installation on top of resilient tile flooring, install tile before these items are installed.
- F. Do not install flooring over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive, as determined by flooring manufacturer's recommended bond and moisture test.

1.7 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed (same manufacturing lots), are packaged with protective covering for storage, and are identified with labels describing contents.
 - 1. Furnish not less than one box for each 200 boxes or fraction thereof, of each type, color, pattern, class, wearing surface, and size of resilient tile flooring installed.
 - 2. Furnish not less than 20 linear yards, of each type, color, pattern, and size of resilient accessory installed.
 - 3. Furnish 2% of amount used on job. (Min. 4 full size tile).
 - 4. Furnish one unopened gallon of each type of adhesive used.
 - 5. Deliver extra materials to Owner.

PART 2 - PRODUCTS

2.1 LUXURY VINYL TILE (LVT1, LVT2, LVT3, LVT4, LVT5, LVT6, and LVT7)

- A. Basis of Design: Mannington Commercial; Color Anchor. Other acceptable manufacturers are:
 - 1. Shaw Contract
 - 2. Mohawk Group
 - 3. Patcraft
- B. Construction Luxury Vinyl Tile
- C. Non-ortho Phthalate
- D. Classification ASTM F1700 Class III, Type B
- E. Total Thickness 0.098" (2.5 mm)
- F. Wear Layer Thickness 20 mil (0.51 mm)
- G. Wear Layer Quantum Guard Elite®
- H. Edge Treatment Bevel or Unbevel
- I. Size: 12" x 24" (305 x 610 mm)
- J. Color as indicated on Finish Material Schedule

2.2 LUXURY VINYL TILE (LVT-8)

- A. Basis of Design: Mannington Commercial; Primary Elements. Other acceptable manufacturers are:
 - 1. Shaw Contract
 - 2. Mohawk Group
 - 3. Patcraft

- B. Construction: Luxury Vinyl Tile, Non-ortho Phthalate
- C. Classification: ASTM F1700 Class III, Type B
- D. Total Thickness: 0.098" (2.5 mm)
- E. Wear Layer Thickness: 20 mil (0.51 mm)
- F. Wear Layer: Enhanced Urethane
- G. Edge Treatment Micro-bevel Square
- H. Size: 12" x 24" (305 x 610 mm)
- I. Color as indicated on Finish Material Schedule

2.3 RUBBER STAIR TREAD (RST-1)

- A. Basis of Design: Subject to compliance with requirements provide VIHTR - Visually Impaired) as manufactured by Tarkett. Other acceptable manufacturers are:
 - 1. Flexco
 - 2. Johnsonite
 - 3. Roppe
- B. Hammered Surface Texture Rubber Stair Tread with Integrated Riser (VIHTR - Visually Impaired): 2" (5.08 cm) hinged, square nose configuration, .210" (5.33 mm) to .153" (3.89 mm) tapered 13" (33 cm) tread depth with 7" (17.8 cm) integral riser.
- C. Provide 2" (5.0 cm) wide contrasting color grit tape insert.
- D. Color as indicated on Finish Material Schedule.

2.4 RUBBER TILE (RT-1, RT-2, RT-3, RT-4, RT-5, RT-6, and RT-7) (ALTERNATE)

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Tarkett HRTCT 38 or Johnsonite; Hammered Tile. Other acceptable manufacturers are:
 - 1. Flexco
 - 2. Johnsonite
 - 3. Roppe
- B. Classification specify: ASTM F1344, Type I-A, homogeneous solid color rubber tile.
- C. Thickness/Wearlayer: 0.125 inch (3.17 mm).
- D. For size specify: 24 in. x 24 in. (61cm x 61 cm).
- E. Colors and Patterns: As indicated on Finish Material Schedule.
- F. Test data:
 - 1. Hardness (ASTM D2240): ≥ 85 Shore A

2. Abrasion Resistance (ASTM D3389): Passes
3. Thickness Tolerance (ASTM F386): Passes
4. Resistance to Chemicals (ASTM F925): Passes
5. Static Load Resistance (ASTM F970): 250 psi
6. Resistance to Heat (ASTM F 1514): $\Delta E \leq 8$
7. Size/Squareness Tolerance (ASTM F2055): Passes
8. Dimensional Stability (ASTM F2199): Passes
9. Static Coefficient of Friction (ASTM D 2047): ≥ 0.8 SCOF
10. Flamability (ASTM E648, Critical Radiant Flux): Class 1 (≥ 0.45 W/cm²)

2.5 VINYL STAIR NOSING (VST-1)

- A. Basis of Design: Tarkett: Vinyl Stair Nosing, VITSN-38 . Other acceptable manufacturers are:
 1. Flexco Floors
 2. Johnsonite
- B. Slip resistance: ASTM D 2047, SCOF \geq 0.8
- C. Flammability-Flooring Panel Radiant: ASTM E 648 (CRF), Class I (mean average CRF: 0.45 w/sq cm or higher)
- D. Smoke Density: ASTM E 662, <450
- E. Color as selected by Architect.

2.6 RUBBER INTEGRATED STAIR TREAD WITH RISER (RST-1)

- A. Basis of Design: VITSN-38 as manufactured by Tarkett. Other acceptable manufacturers are:
 1. Flexco Floors
 2. Johnsonite
 3. Roppe
- B. Integrated Stair Tread and Riser with the following physical characteristics:
 1. Manufactured from a homogeneous composition of 100% synthetic rubber.
 2. Complies with requirements for ASTM F 2169 Standard Specification for Resilient Stair Treads, Type TS, Class 1 and 2, Group 1 and 2.
 3. Hardness: ASTM D 2240 – Not less than 85 Shore A.
 4. Abrasion Resistance: ASTM D 3389 – less than 1 gram weight loss.
 5. ASTM D 2047, Standard Test Method for Static Coefficient of Friction of Polish- Coated Flooring of 0.6 or greater.
 6. ASTM E 648, Standard Test Method for Critical Radiant Flux of 0.45 watts/cm² or greater, Class I.
 7. Integrated tread and riser.
 8. Visually Impaired treads meet ADA and are California Title 24 Accessibility requirements.
 9. Visually Impaired treads will have 2" wide co-extruded contrasting color insert or 2" wide contrasting color grit tape insert.

- C. Color as selected by Architect.

2.7 LINOLEUM (BASE BID)

- A. Linoleum (LIN-1, LIN-2, LIN-3, LIN-4, LIN -5, LIN-6, LIN-7 and LIN-8)
- B. Basis of Design: Forbo Marmoleum Fresco
- C. Construction: Homogeneous floor covering made from natural ingredients including flax seed oil, rosin binders, wood flour, limestone and dry pigments which are mixed and then calendared onto a natural jute backing. Topshield2™ is a high performance finish. Its double UV cured double layer technology delivers extraordinary performance and clear and vibrant colors that remain over time. Topshield2™ creates a 'ready to use' Marmoleum® that requires no initial maintenance or polymer application.
- D. Physical Characteristics: (dimensions are approximate)
 - 1. Gauge: 1/10" (2.5 mm)
 - 2. Backing : Jute
 - 3. Width: 79" (2 meters)
 - 4. Length: 105' (32 meters)
 - 5. Roll Size: 77 yards² (64 meters²)
- E. Reference Specification: Meets or exceeds all technical requirements as set forth in ASTM F 2034 Standard Specification for Linoleum Sheet Flooring, Type I.
- F. Environmental: 100% USDA Certified BioBased Product. Compliant with CDPH 01350 requirements for VOC emissions and indoor air quality.
- G. Colors as indicated on Finish Material Schedule.

2.8 RESILIENT ACCESSORIES

- A. Vinyl Wall Base: Products complying with ASTM F 1861 and with the following requirements:
 - 1. Products: As follows: Johnsonite, Flexco, Roppe, or Armstrong.
 - 2. Color and Pattern: As selected by Architect from manufacturer's full range of colors and patterns produced for vinyl wall base complying with requirements indicated.
 - 3. Style: Cove with top-set toe.
 - a. Provide straight base at carpet areas.
 - 4. Minimum Thickness: 1/8 inch (3.2 mm).
 - 5. Height: 4 inches and 6"
 - 6. Lengths: Coils in lengths standard with manufacturer, but not less than 96 feet (29.26 m).
 - 7. Outside Corners: Premolded.
 - 8. Inside Corners: Premolded
 - 9. Ends: Premolded.
 - 10. Surface: Smooth.

- B. Rubber Accessory Moldings: Products complying with requirements specified in the Resilient Tile Flooring Schedule.
- C. Reducer Strips: As indicated on drawings for transitions between floor finishes.
- D. Expansion Joint Seal: Heavy duty vinyl "T" for inserting into expansion joints to allow movement of the tile below 1-1/2" cap.
- E. Cove Cap Moldings
 - 1. Basis of Design: Johnsonite Cove Cap Mouldings; CCC-B. Other approved manufacturers are:
 - a. Roppe
 - b. Flexco Floors
 - 2. Square top cap for 1/8" (3.18 mm) resilient coved sheet material. Cap extends 1/4" (6.35 mm) over coved material with 3/4" (1.91 cm) glue surface.
- F. Adhesives: as recommended by manufacturer.

2.9 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by flooring manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
- C. 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 3 - EXECUTION

3.1 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 satisfactory for resilient product installation and comply with requirements specified.
- 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 bond and moisture tests recommended by flooring manufacturer.
 - 2. Subfloor finishes comply with requirements specified in Division 3 Section "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.

3.2 PREPARATION

- A. General: Comply with resilient product manufacturer's written installation instructions for preparing substrates indicated to receive resilient products.
- B. All cracks, minor holes, crevices, score marks, control and construction joints shall be filled. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
- C. Level floor in existing areas.
- 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.

3.3 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 tiles with grain direction alternating in adjacent tiles (basketweave pattern).
 - 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, door frames, 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, non-staining 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 covers 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.

3.4 RESILIENT ACCESSORY INSTALLATION

- A. General: Install resilient accessories according to manufacturer's written installation instructions.
- B. Apply resilient wall base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
 - 1. Install wall base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
 - 2. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
 - 3. Do not stretch base during installation.
 - 4. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.
 - 5. Install premolded outside corners before installing straight pieces.
 - 6. Install premolded outside and inside corners before installing straight pieces.
 - 7. Form outside corners on job from straight pieces of maximum lengths possible, without whitening at bends. Shave back of base at points where bends occur and remove strips perpendicular to length of base that are only deep enough to produce a snug fit without removing more than half the wall base thickness.
 - 8. Form inside corners on job, from straight pieces of maximum lengths possible, by cutting an inverted V-shaped notch in toe of wall base at the point where corner is formed. Shave back of base where necessary to produce a snug fit to substrate.
- C. Place resilient accessories so they are butted to adjacent materials and bond to substrates with adhesive. Install reducer strips at edges of flooring that would otherwise be exposed.
- D. Apply resilient products to stairs as indicated and according to manufacturer's written installation instructions.

3.5 CLEANING AND PROTECTING

- A. Perform the following operations immediately after installing resilient products:
 - 1. Remove adhesive and other surface blemishes using cleaner recommended by resilient product manufacturers.
 - 2. Sweep or vacuum floor thoroughly.

3. Damp-mop floor with a neutral detergent solution recommended by resilient tile manufacturer to remove marks and soil. Do not wash floor until after time period recommended by flooring manufacturer.
 4. Apply two coats of high quality commercial floor polish recommended by resilient tile manufacturer.
 5. Do not wet wash, scrub or strip floor for at least five days after installation.
- B. 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. Cover products installed on floor surfaces with undyed, untreated building paper until inspection for Contract Completion.
 2. 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.
- C. Preparation for commercial traffic. Clean floor surfaces not more than 4 days before date scheduled for inspection intended to establish date of Contract Completion. Clean products according to manufacturer's written recommendations.
1. Scrub the floor with a neutral detergent recommended by the resilient tile manufacturer.
 2. Thoroughly rinse floor and allow to dry.
 3. Apply five coats of a high quality commercial floor polish to VETas recommended by the resilient tile manufacturer. Apply a maximum of three coats per day.
 4. At high traffic areas, such as corridors and the cafetorium, apply a high quality stain resistant sealer as recommended by the resilient tile manufacturer.
 5. Coordinate manufacturer's continuing regular maintenance recommendations with Owner's maintenance program. No-scrub and/or no-rinse strippers are not recommended on tile floors less than two years old because they may affect adhesive bond.

END OF SECTION 096519