

SECTION 09650
RESILIENT FLOORING AND BASE

PART 1 - GENERAL

1.01 PROVISIONS INCLUDED

- A. The general provisions of the Contract, including General and Supplementary General Conditions, and Division 1 General Requirements, apply to work specified in this Section.

1.02 SUMMARY

- A. This Section specifies the following:

1. Vinyl composition floor tile.
2. Resilient wall base and resilient flooring accessories.

- B. Related Work Specified in Other Sections:

1. Room Finish Schedule: Section 09000.
2. Transition strip between carpet and resilient flooring: Section 09680, Carpet.

1.03 REFERENCED STANDARDS

- A. American Society for Testing and Materials (ASTM):

1. ASTM F 710, Standard Practice for Preparing Concrete Floors and Other Monolithic Floors to Receive Resilient Flooring.
2. ASTM F 1066, Specification for Vinyl Composition Floor Tile
3. ASTM F 1861, Specification for Resilient Wall Base.

1.04 SUBMITTALS

- A. Product data: Submit manufacturers' illustrated project literature, detailed specifications describing composition and dimensions, and installation instructions, for each type of product specified.

- B. Samples:

1. For initial selection, submit color charts consisting of chips of actual tiles showing full range of colors and patterns available for each type of resilient flooring indicated.
2. For verification, submit:
 - a. Tiles: Full-size tiles of each different color and pattern.
 - b. Wall base and linear accessories: 12 inch long sample, each type and color.
 - c. Transition and reducer strips: 12 inch long sample of each type and color.

- C. Closeout Submittals:

1. Maintenance instructions for resilient floor covering materials, for inclusion in the project Operation and Maintenance manual, specified in Section 01770.
2. Extra materials.

1.05 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 resilient flooring material from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.
- C. **Fire Resistance:** Provide products with the fire-test-response characteristics specified in Part 2 of this section, as determined by testing identical products in accordance with the test methods indicated below, by a testing and inspection agency acceptable to authorities having jurisdiction:
 - 1. Critical Radiant Flux: ASTM E 648.
 - 2. Smoke Density: ASTM E 662.
- D. **Slip-Resistance:** Provide products with the slip-resistance characteristics specified in Part 2 of this section, as determined by testing identical products in accordance with the test methods indicated below, by a testing and inspection agency acceptable to authorities having jurisdiction:
 - 1. Coefficient of Friction: ASTM D2047, James Machine test, or by other similar method acceptable to authorities having jurisdiction.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products 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 products in dry spaces protected from the weather with ambient temperatures maintained between 50 deg F (10 deg C) and 90 deg F (32 deg C).
- C. Store tiles on flat surfaces.
- D. Move resilient flooring materials into spaces where they will be installed at least 48 hours in advance of installation; allow longer time for conditioning if recommended by the manufacturer.

1.07 PROJECT CONDITIONS

- A. 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.
- B. Maintain a temperature of not less than 70°F or more than 95°F 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°F or more than 95°F.

- C. Do not install products until they are at the same temperature as the space where they are to be installed.
- D. Close spaces to traffic during flooring installation and for time period after installation recommended in writing by manufacturer.
- E. Install tiles and accessories after other finishing operations, including painting, have been completed.

1.08 EXTRA MATERIALS

- A. Furnish extra materials matching products installed, in quantities specified below, packaged with protective covering for storage and identified with labels clearly describing contents. Deliver extra materials to Owner.
 - 1. Tiles: One box for each 50 boxes or fraction thereof, of each type, color and pattern installed.
 - 2. Base: 10 linear feet for each 500 linear feet or fraction thereof of each different type and color of resilient wall base installed.

PART 2 - PRODUCTS

2.01 VINYL COMPOSITION TILE

- A. Products: Subject to compliance with requirements, furnish one of the following products:
 - 1. Armstrong World Industries, "Standard Excelon."
 - 2. Mannington "Essentials" and "Designer Essentials."
 - 3. Tarkett "Expressions."
- B. Vinyl Composition Tile: Products complying with ASTM F 1066, Class 2 (through-pattern tile), smooth wearing surface, 0.125 inch thick; Critical Radiant Flux Class I, not less than 0.45 W/sq. cm per ASTM E 648; slip resistance 0.6 or greater.
 - 1. Size: 12 by 12 inches.
 - 2. Pattern: Match Armstrong "Imperial Texture".
 - 3. Colors: Furnish tile in three colors; colors to be selected by Architect from manufacturer's full line.
- C. Existing VCT: For the record, the colors approved for the previous phase of the work are the colors listed below; the Architect may choose different colors for this phase of the work.
 - 1. Polar White 51941 (Field)
 - 2. Teal 51906 (Accent)
 - 3. Silver Green 51802 (Accent).

2.02 RESILIENT BASE

- A. Rubber Base: ASTM F 1861, Type TP (rubber, thermoplastic), Group I (solid, homogeneous), 1/8" thick by 4 inches high,
 - 1. Manufacturer: Armstrong, Johnsonite, Burke, Estrie, Roppe Rubber.
 - 2. Colors: To be selected by Architect.

- B. Style: Straight (toeless) at carpet, cove base with top-set toe at other locations.
- C. Lengths: Coils in manufacturer's standard length.
- D. Corners: Pre-formed.

2.03 INSTALLATION ACCESSORIES

- A. Concrete Slab Primer: Nonstaining type as recommended by flooring manufacturer.
- B. Leveling and Patching Compounds: Latex-modified, portland-cement-based formulation, trowelable consistency, provided or approved by resilient flooring manufacturer for applications indicated; Armstrong "S-105", Flintkote "Latex Underlayment" or approved equal.
- C. Adhesives (Cements): Water-resistant adhesive recommended by resilient flooring manufacturer to suit each type of resilient floor tile products and actual substrate conditions for this project.
- D. Resilient Edge Reducer Strips: Homogenous vinyl or rubber composition, tapered or bullnose edge, matching flooring in thickness, color as selected by Architect, not less than 1" wide.

2.04 CLEANERS, POLISHES, SEALERS

- A. Protective Floor Polish: Furnish commercial grade, metal, cross-linked acrylic product acceptable to tile manufacturer.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. General: With Installer present, examine areas where resilient flooring will be installed, to verify that substrates and conditions are satisfactory for resilient flooring installation. A satisfactory subfloor is dry, flat, smooth and free from cracks, holes and ridges and free from chalking.
- B. Subfloor Moisture Conditions: Moisture emission rate of not more than 3 lb/1000 sq. ft./24 hours (14.6 kg/1000 sq. m/24 hours) when tested by calcium chloride moisture test in compliance with CRI 104, 6.2.1, with subfloor temperatures not less than 55°F (12.7°C).
 - 1. Before beginning installation, perform one moisture condition test for each 2000 square feet for floor area, and at least one test in each major area where resilient flooring is to be installed.
- C. 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 resilient flooring manufacturer.

2. Flatness and Surface Finish: Subfloor surfaces should vary not more than 1/8" in 10"; and maximum high and low points should not occur in less than 20'.
 3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits of any kind.
- D. Bond Tests: Before beginning installation, perform bond tests on floors to receive resilient flooring. Perform one bond test for each 2000 square feet of flooring to be installed, and at least one test in each major area.
1. Using specified flooring materials and adhesives, install 3 foot square trial panels at various typical locations near walls and columns (out of traffic paths which may have worn concrete surfaces).
 2. Allow flooring to cure 72 hours and then attempt to peel flooring up.
 3. If flooring is not difficult to remove and if adhesive does not cling to both subfloor and flooring, correct problems with concrete subfloor before proceeding with work of this Section.
 4. Repeat bond tests until secure bond is demonstrated.
- E. Verify that the base of acoustical partitions (acoustical partitions are defined as partitions which have an STC rating indicated on the drawings or are filled with acoustical insulation) have been sealed with acoustical sealant.
- F. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. General: Comply with manufacturer's installation specifications to prepare substrates indicated to receive resilient flooring.
- B. Use trowelable leveling and patching compounds per flooring manufacturer's directions to fill cracks, holes, and depressions in substrates.
- C. Remove coatings, such as curing compounds, that are incompatible with flooring adhesives and that contain soap, wax, oil, or silicone. Remove 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 flooring immediately before 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.

3.03 RESILIENT FLOORING INSTALLATION, GENERAL

- A. General: Comply with flooring manufacturer's installation directions.
- B. Where items are indicated for installing on top of finished floor, sequence the work so that resilient flooring is installed before such items are installed.
- C. Scribe, cut, and fit resilient flooring to butt tightly to vertical surfaces, permanent fixtures, built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.

- D. Extend flooring and base into toe spaces, accessible sink openings in under casework, door reveals, closets, and similar openings.
- E. 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.
- F. Finished installation shall be free of open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
- G. Install reducer strips at edges of resilient flooring that would otherwise be exposed.

3.04 INSTALLATION OF TILES

- A. General: Comply with tile manufacturer's installation directions and other requirements indicated that are 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, unless otherwise indicated.
- C. Match tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
- D. Lay tiles with grain direction alternating in adjacent tiles (basket-weave pattern), unless otherwise indicated.
- E. Unless otherwise directed by tile manufacturer, use full spread of adhesive. Comply with tile manufacturer's directions for trowel notching, adhesive mixing, and adhesive open and working times. Hand roll tiles where required by tile manufacturer.
- F. Where resilient flooring meets a thicker floor finish, such as ceramic tile, use leveling compound to build up the subfloor in a uniform, gentle slope, so that at the joint the resilient flooring is flush with the surface of the adjacent finish flooring. Taper the leveling compound away from the joint for a distance of at least 30 inches (762 mm) so that the slope is almost imperceptible; slope shall not exceed 2% (1:50).

3.05 INSTALLATION OF RESILIENT BASE

- A. Extent: Provide resilient base wherever resilient flooring or carpet is installed, unless a different type of base is scheduled. Apply resilient base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is scheduled or installed.
- B. Install base only after resilient flooring or carpet has been installed in the area, so that base will cover edge of flooring. Base which is installed before flooring shall be removed and reinstalled.
- C. Install pre-formed corners before installing straight lengths of base.

- D. Install base in as long lengths as practicable. Tightly bond base to backing throughout the length of each piece, with continuous contact at horizontal and vertical surfaces. Immediately clean excess adhesive from wall and floor surfaces.
- E. Installed base shall be level and flat, without visible undulations. On irregular wall surfaces, such as masonry, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.

3.06 CLEANING AND PROTECTION

- A. Remove adhesive and other surface blemishes immediately after completing resilient flooring installation; use cleaner recommended by resilient flooring manufacturer. Sweep or vacuum floor. Do not wash floor until after time period recommended by resilient flooring manufacturer. Damp-mop to remove black marks and soil.
- B. Temporary Polish: After damp mopping vinyl composition tile, apply 2 coats of floor polish to impart temporary protection during remainder of the construction period.
- C. 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 indicated or recommended by resilient flooring manufacturer.
 - 1. Cover flooring with undyed, untreated building paper until inspection for Substantial Completion.
 - 2. Do not move heavy and sharp objects directly over flooring. Place plywood or hardboard panels over resilient flooring and under objects while they are being moved. Slide or roll objects over panels without moving panels.
- D. Final Cleaning, General: Allow flooring adhesive to set for at least one week after installation, or longer time period if recommended by resilient flooring manufacturer, before final cleaning. Perform final cleaning not more than 4 days prior to inspection at time of Substantial Completion. Clean resilient flooring to remove construction dirt, and apply final polish or buff to shine, as appropriate for each flooring type. Before wet-cleaning, buffing, or polishing, remove loose soil, sand, and grit by sweeping or dust-mopping. Comply with resilient flooring manufacturer's instructions for type of cleaner and scrubbing equipment, so that flooring is not abraded or damaged.
- E. Final Cleaning of Vinyl Composition Tile: Strip temporary polish. Scrub, rinse floor thoroughly, and allow to dry. Apply three coats of commercial floor polish in accordance with floor polish manufacturer's instructions.

END OF SECTION 09650