

SECTION 09 65 00  
RESILIENT FLOORING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required and install resilient flooring complete as shown on the drawings and as specified herein.
- B. This Section includes the following:
  - 1. Solid vinyl floor tile.
  - 2. Rubber floor tile.
  - 3. Resilient base.
  - 4. Resilient stair accessories.
  - 5. Resilient molding accessories.

1.02 RELATED WORK

- A. Concrete is included in Section 03 30 00.
- B. Carpet is included in Section 09 68 13.
- C. Elevators are included in Section 14 21 00.

1.03 SUBMITTALS

- A. Submit, in accordance with Section 01 30 00, detailed information on materials proposed and installation methods.
- B. Product Data: For each type of product indicated.
- C. Shop Drawings: For each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
  - 1. Show details of special patterns.
- D. Samples: Provide the following:
  - 1. For each type of floor tile indicated.
  - 2. Full-size units of each color and pattern of floor tile required.
  - 3. For each type of resilient wall base and accessories indicated, in manufacturer's standard-size Samples but not less than 12 inches long, of each resilient product color, texture, and pattern required.

- E. Product Schedule: For floor tile. Use same designations indicated on Drawings.
- F. Qualification Data: For qualified Installer.
- G. Maintenance Data: For each type of floor tile to include in maintenance manuals.

#### 1.04 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.
  - 1. Engage an installer who employs workers for this Project who are trained or certified by manufacturer for installation techniques required.
- 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. Source Limitations for Resilient Flooring: Obtain flooring of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.
- D. Rubber Products: Provide containing no PVCs, plasticizers, halogens, asbestos, and free of materials known to be teratogenic, mutagenic, or carcinogenic.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Build mockups for floor tile including resilient base and accessories.
  - 2. Size: Minimum 100 sq. ft. for each type, color, and pattern in locations directed by Architect.
  - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Handling:
  - 1. Deliver materials in manufacturer's original, unopened and undamaged containers or packaging, with labels and indicating brand names, colors and patterns, and quality designations.
  - 2. Do not open containers or remove labels until materials are inspected and approved.
  - 3. Deliver materials to allow for minimum storage time at job site. Coordinate delivery with scheduled time of installation.

- B. 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 degrees F or more than 90 degrees F. Store floor tiles on flat surfaces.

#### 1.06 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 degrees F or more than 95 degrees 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 Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 degrees F or more than 95 degrees 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, resilient wall base, and accessories after other finishing operations, including painting, have been completed.

#### 1.07 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.
  - 2. Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

#### 1.08 WARRANTY

- A. Manufacturer's Warranty: Standard written warranty for labor and materials rubber disk tile flooring.
  - 1. Warranty Period: 5 years from date of Substantial Completion.
- B. Manufacturer's Special Warranty: Standard written warranty for rubber tile flooring warranted against excessive wear under normal usage in recommended applications. Warranty does not apply to: material degradation caused by cuts, tears, punctures, soiling, staining or other abuse; delamination issues related to improper substrate preparation, excessive moisture in substrate and improper leveling or patching compounds; improper installation; and animal fat and grease exposure.

1. Warranty Period - Luxury Vinyl Tile (LVT): 20 years from date of Substantial Completion.

## PART 2 PRODUCTS

### 2.01 MATERIALS - LUXURY VINYL FLOOR TILE (LVT)

- A. Basis-of-Design (LVT-1 and LVT-2): Designs are based on Centiva Contour, Substrate #CSU Collection as manufactured by Tarkett, Inc. Subject to compliance with project requirements, provide specified products, comparable product by one of the following, or an approved equal:
  1. Armstrong World Industries, Inc.
  2. Burke Mercer Flooring Products, Division of Burke Industries Inc.
  3. Flexco.
  4. Johnsonite.
  5. Roppe Corporation, USA.
- B. Tile Standard: ASTM F 1700.
  1. Class: Class III, printed film vinyl tile.
  2. Type: Type B, embossed surface.
- C. Total Thickness: 0.120 inch.
- D. Size: 12 by 12 inches.
- E. Seaming Method: Standard.
- F. Colors and Patterns:
  1. LVT-1: Abyss, #0959.
  2. LVT-2: Harlequin, #0955.

### 2.02 MATERIALS - RUBBER SHEET TILE (RF)

- A. Basis-of-Design (RF-1, RF-2, and RF-3): Designs for sheet flooring are based on Noraplan nTx, Sentica series as manufactured by Nora Rubber Flooring, Freudenberg Building Systems, Inc. Subject to compliance with project requirements, provide specified products, comparable product by one of the following, or an approved equal:
  1. Burke Mercer Flooring Products, Division of Burke Industries Inc.
  2. Endura Rubber Flooring, a division of Burke Industries Inc.
  3. Flexco.

4. Mondo Rubber International, Inc.
  5. Roppe Corporation, USA.
- B. Sheet Standard: ASTM F 1859, Type I (homogeneous rubber sheet).
- C. Hardness: Not less than 90 as required by ASTM F 1344, measured using Shore, Type A durometer per ASTM D 2240.
- D. Wearing Surface: Smooth.
- E. Thickness and Sheet Width: 3 mm (~0.12 inch) and 48 inches.
- F. Load Limits:
1. Static Load: ASTM F970, Residual compression of 0.003 inch with 800 lbs.
  2. Rolling Load:  $\leq$  550 lbs. per sq. inch, with no forklift traffic.
- G. Seaming Method: Heat welded.
- H. Colors and Patterns:
1. RF-1: Frost Bite, #6524.
  2. RF-2: Mountain Air, #6526.
  3. RF-3: First Day, #6518.

#### 2.03 RESILIENT BASE

- A. Acceptable Manufacturers (RB-1, RB-2, and RB-3): Subject to compliance with project requirements, provide specified products by one of the following or an approved equal:
1. Armstrong World Industries, Inc.
  2. Burke Mercer Flooring Products; Division of Burke Industries, Inc.
  3. Endura Rubber Flooring; Division of Burke Industries, Inc.
  4. Flexco, Inc.
  5. Johnsonite.
  6. Mondo Rubber International, Inc.
  7. Nora Rubber Flooring; Freudenberg Building Systems, Inc.
  8. Roppe Corporation, USA.

- B. Resilient Base Standard: ASTM F 1861.
  - 1. Material Requirement: Type TP (rubber, thermoplastic).
  - 2. Manufacturing Method: Group I (solid, homogeneous).
  - 3. Style:
    - a. Cove (base with toe).
    - b. Straight (flat or toeless).
- C. Minimum Thickness: 0.125 inch.
- D. Height: 4 inches.
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Job formed or preformed.
- G. Inside Corners: Job formed or preformed.
- H. Finish: Matte.
- I. Colors and Patterns: As selected by Architect from full range of industry colors.

#### 2.04 RESILIENT STAIR ACCESSORIES

- A. Basis-of-Design (ST-1): Designs for stair treads are based on Norament Satura series as manufactured by Nora Rubber Flooring, Freudenberg Building Systems, Inc. Subject to compliance with project requirements, provide specified products, comparable product by one of the following, or an approved equal:
  - 1. Burke Mercer Flooring Products, Division of Burke Industries Inc.
  - 2. Endura Rubber Flooring, a division of Burke Industries Inc.
  - 3. Flexco.
  - 4. Mondo Rubber International, Inc.
  - 5. Roppe Corporation, USA.
- B. Resilient Stair Treads Standard: ASTM F 2169.
  - 1. Material Requirement: Type TP (rubber, thermoplastic).
  - 2. Surface Design:
    - a. Class 2, Pattern: Hammered surface on front section of tread.
  - 3. Manufacturing Method: Group 2, tread with contrasting color strip for visually impaired.
- C. Nosing Style: Square, adjustable to cover angles between 60 and 90 degrees.

- D. Nosing Height: 1-1/2 inches.
- E. Size: Lengths and depths to fit each stair tread in one piece.
- F. Tread and Integral Riser: One piece of varying thickness with smooth finish on riser area and various color speckles throughout and full depth.
- G. Landings: Norament Satura rubber tiles 24 inches by 24 inches by 3.5 mm of same general aesthetic of treads and risers.
- H. Colors and Patterns: As selected by Architect from full range of industry colors.

## 2.05 RESILIENT MOLDING ACCESSORY

- A. Resilient Molding Accessory:
  - 1. Manufacturers: Provide products by one of the following:
    - a. Burke Mercer Flooring Products; Division of Burke Industries, Inc.
    - b. Flexco, Inc.
    - c. Johnsonite.
    - d. R.C.A. Rubber Company (The).
    - e. Roppe Corporation, USA.
    - f. Or equal.
- B. Description: Caps, edges, reducer strips, and other profiles based on types of adjoining finish flooring.
- C. Material: Rubber.
- D. Profile and Dimensions: As required by project conditions.
- E. Colors and Patterns: As selected by Architect from full range of industry colors.

## 2.06 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.
- C. Seamless-Installation Accessories:
  - 1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.
    - a. Color: As selected by Architect from manufacturer's full range to contrast with floor tile.
- D. Floor Polish: Provide protective liquid floor polish products as recommended by manufacturer.

- E. Stair-Tread-Nose Filler: Two-part epoxy compound recommended by resilient tread manufacturer to fill nosing substrates that do not conform to tread contours.
- F. Metal Edge Strips: Extruded aluminum with mill finish of width shown, of height required to protect exposed edges of tiles, and in maximum available lengths to minimize running joints.
- G. Floor Polish: Provide protective liquid floor polish products as recommended by resilient stair tread manufacturer.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Examine substrates 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 and resilient products.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.02 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.
  - 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.
    - a. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
- 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 and resilient products 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.

### 3.03 INSTALLATION - FLOOR TILE

- 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) and in pattern of colors and sizes indicated.

- 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, non-staining marking device.

- G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

- H. 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.

- I. Seamless Installation:

1. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and heat weld with welding bead to permanently fuse sections into a seamless floor covering. Prepare, weld, and finish seams to produce surfaces flush with adjoining floor covering surfaces.

- J. Roll resilient flooring using a 100 - 150 pound roller as recommended by manufacturer in both directions within one hour of spreading adhesive. One hour later, re-roll resilient flooring in both directions.

- K. Provide rubber floor tile for installation on floors of elevators.

### 3.04 INSTALLATION - RESILIENT BASE

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.
- H. Job-Formed Corners:
  - 1. Outside Corners: Use straight pieces of maximum lengths possible. Form without producing discoloration (whitening) at bends.
  - 2. Inside Corners: Use straight pieces of maximum lengths possible.

### 3.05 INSTALLATION - RESILIENT ACCESSORIES

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Stair Accessories:
  - 1. Use stair-tread-nose filler to fill nosing substrates that do not conform to tread contours.
  - 2. Prior to applying adhesive, lightly sand entire back of tread, riser, and nosing areas or wipe with denatured alcohol to remove any contaminants which may interfere with proper adhesive bonding.
  - 3. Tightly adhere to substrates throughout length of each piece.
  - 4. For treads installed as separate, equal-length units, install to produce a flush joint between units.
  - 5. Use contrasting color strip at top and bottom of each run of stairs.
  - 6. Cover entire top, intermediate, and bottom landing areas with rubber tile. Install tile with tight butt joints with no joint width greater than 1/64-inch. Fit accurately and securely adhere over entire surface.

7. Align pattern of treads with landing tile and tile on each landing in both directions.

- C. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of carpet and resilient floor covering that would otherwise be exposed.

### 3.06 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of floor tile and resilient products.
- 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 and resilient 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 and resilient stair treads before applying liquid floor polish.
1. Apply two coats.
- E. Sealers and Finish Coats: Remove soil, visible adhesive, and surface blemishes from resilient terrazzo floor tile surfaces before applying liquid cleaners, sealers, and finish products.
1. Sealer: Apply two base coats of liquid sealer.
  2. Finish: Apply two coats of liquid floor finish.
- F. Cover floor tile and resilient products until Substantial Completion.

END OF SECTION

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