

SECTION 09650
RESILIENT FLOORING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Vinyl composition tiles.
 - 2. Sheet vinyl floor coverings.
 - 3. Resilient wall base and accessories.
 - 4. Substrate preparation for resilient flooring and accessories.

- B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 - 1. Section 00850 – NATIONAL ACCOUNTS for pricing.
 - 2. Section 09681 - SHEET CARPETING for carpet accessories.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. Manufacturers' product data for adhesives, including printed statement of VOC content

- B. Samples for Verification:
 - 1. Tile Flooring: Full-size units of each color and pattern of resilient floor tile required.
 - 2. Sheet Flooring: Manufacturer's standard-size samples, but not less than 6-by-9-inch sections of each different color and pattern of sheet floor covering required.
 - 3. Resilient Wall Base and Accessories: Manufacturer's standard-size samples, but not less than 12 inches long, of each resilient product color and pattern required.
 - 4. Heat-Welding Bead: Manufacturer's standard-size samples, but not less than 9 inches long, of each color required.

- C. Maintenance Data: For resilient products to include in maintenance manuals.

- D. Test Results: For field testing of substrate, signed by installer.

1.3 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide products identical to those tested for fire-exposure behavior per test method indicated by a testing and inspecting agency acceptable to authorities having jurisdiction.
- B. Purchase and install consecutive sheet vinyl rolls from the same dye lot only. Confirm with supplier at time of order.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products 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 tiles on flat surfaces.

1.5 PROJECT CONDITIONS

- A. Maintain 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. After post installation period, maintain 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 covering installation.
- D. Close spaces to traffic for 48 hours after floor covering installation.
- E. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 DISTRIBUTOR: ARMSTRONG FLOOR PRODUCTS.

- A. Flooring contractors shall contact their local Armstrong Distributor and request Fresenius Medical Center pricing. For additional questions or concerns, please contact Vonnie Schaefer at 717-396-5743 or Dennis Scott (Armstrong Account Manager) at 1-800-356-9301, extension 8810.

2.2 VINYL COMPOSITION TILE

- A. Vinyl Composition Tile (VCT), Typical: ASTM F 1066, Class 2 - through pattern.
 - 1. Product: Imperial Texture Standard Excelon Tile, by Armstrong World Industries, Inc.
 - 2. Style and Colors: Refer to Finish Schedule.
 - 3. Thickness: 0.125 inch
 - 4. Size: 12 by 12 inches.

- B. Vinyl Composition Tile (VCT): ASTM F 1066, Class 3 - surface pattern.
 - 1. Product: Arteffects Tile, by Armstrong World Industries, Inc.
 - 2. Style and Colors: Refer to Finish Schedule.
 - 3. Thickness: 0.125 inch
 - 4. Size: 12 by 12 inches.

- C. Vinyl Composition Tile (VCT), Slip Retardant: ASTM F 1066.
 - 1. Product: Safety Zone Tile, by Armstrong World Industries, Inc.
 - 2. Style and Colors: Refer to Finish Schedule.
 - 3. Thickness: 0.125 inch
 - 4. Size: 12 by 12 inches.

2.3 SHEET VINYL FLOOR COVERING

- A. Sheet Vinyl Floor Covering Homogeneous/Monolithic, Typical: ASTM F 1303 (for jurisdictions that require the use of "homogeneous" flooring).
 - 1. Product: Medintech, by Armstrong World Industries, Inc.
 - 2. Style and Colors: Refer to Finish Schedule.
 - 3. Type (Binder Content): Type II, minimum binder content of 34%
 - 4. Wear-Layer Thickness: Grade 1 (0.080 inches)
 - 5. Overall Thickness: 0.080 inches.
 - 6. Width: 72 inches.
 - 7. Backing Class: Class A (fibrous).
 - 8. Seaming Method: Heat welded.

- B. Sheet Vinyl Floor Covering With Backing, Typical: ASTM F 1303.
 - 1. Product: Possibilities, by Armstrong World Industries, Inc.
 - 2. Style and Colors: Refer to Finish Schedule.

3. Type (Binder Content): Type II, minimum binder content of 34 percent.
4. Wear-Layer Thickness: Grade 1.
5. Overall Thickness: 0.085 inches.
6. Width: 72 inches.
7. Backing Class: Class A (fibrous).
8. Seaming Method: Heat welded.

2.4 RESILIENT WALL BASE

A. Wall Base: ASTM F 1861.

1. Product: Color-Integrated Wall Base, by Johnsonite, Inc.
2. Style and Colors: Refer to Finish Schedule.
3. Type (Material Requirement): TV or TS (rubber, vulcanized thermoset), TP (rubber, thermoplastic) or Vinyl.
4. Shape: Straight (toeless) at carpet and coved at resilient flooring.
5. Standard Thicknesses: 0.080 inch (vinyl); 0.125 inch (rubber)
6. Height: 4 inches.
7. Lengths: Cut lengths 48 inches long or coils in manufacturer's standard length.
8. Surface: Smooth.

2.5 RESILIENT MOLDING ACCESSORY

A. Types Include the Following As Applicable: Cap for cove carpet, cap for cove resilient sheet floor covering, carpet edge for glue-down applications, nosing for carpet, nosing for resilient floor covering, reducer strip for resilient floor covering, joiner for tile and carpet

1. Manufacturer: Johnsonite, Inc.
2. Material: Rubber or vinyl, as indicated.
3. Profile and Dimensions: As indicated.

2.6 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, Portland cement based or blended hydraulic cement based formulation provided or approved by resilient product manufacturer for applications indicated.

1. Ardex Feather Finish – Rapid Drying Smoothing and Patching Compound or approved equal.

B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products 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 and Asphalt Tile Adhesives: 50 g/L.
 - b. Cove Base Adhesives: 50 g/L.
 - c. Rubber Floor Adhesives: 60 g/L.
2. For moisture vapor emissions exceeding up to 3 lb/1000 sq. ft., use the following product:
 - a. For moisture vapor emissions up to 8 lb/1000 sq. ft., use the following product:

TO BE DETERMINED

- b. For moisture vapor emissions up to 8 lb/1000 sq. ft., use the following product (with flooring manufacturers recommended adhesive).

Koester VAP 1 2000

- C. Heat-Welding Bead: Solid-strand product of floor covering manufacturer.
 1. Color: As selected by Architect from manufacturer's full range to complement or to contrast with floor covering.
- D. Integral-Flash-Cove-Base Accessories:
 1. Cove Strip: 1-inch radius provided or approved by floor covering manufacturer.
 2. Cap Strip: [Square metal, vinyl, or rubber cap] provided or approved by floor covering manufacturer.
- E. 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.

PART 3 - EXECUTION

3.1 PREPARATION

- A. General: Prepare and clean substrates according to resilient flooring manufacturer's written instructions for substrate indicated. Provide clean, dry, and neutral Ph substrate for resilient flooring application.
- B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.

1. Prepare according to ASTM F 710.
 2. Repair damaged and deteriorated concrete according to resilient flooring manufacturer's written recommendations.
 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
 4. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
 - b. Perform plastic sheet test, ASTM D 4263. Proceed with application only after testing indicates absence of moisture in substrates.
 - c. Perform additional moisture tests recommended by manufacturer. Proceed with application only after substrates pass testing.
 - d. If Moisture vapor emissions exceeds 3lb/1000 sq. ft., application of moisture abatement product is required.
 5. Verify that concrete substrates have neutral pH and that resilient flooring will adhere to them. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.
 6. Provide written copies of test to Owner's Rep. and Architect.
- C. 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.
- D. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates.
- E. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
1. Do not install resilient products until they are same temperature as space where they are to be installed.
- F. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, and dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 RESILIENT FLOORING INSTALLATION, GENERAL

- A. Install resilient flooring in strict accordance with the latest edition of Armstrong Guaranteed Installation System, No. F-5061, by Armstrong World Industries, Inc.

3.3 RESILIENT TILE INSTALLATION

- A. 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 tile at perimeter.
 - 1. Lay tiles in pattern indicated.
- B. Match 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.
- C. 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.
- D. Extend tiles into toe spaces, door reveals, closets, and similar openings.
- E. 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.
- F. 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 tile installed on covers. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.
- G. Adhere 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.

3.4 RESILIENT SHEET INSTALLATION

- A. Check tags on all rolls of material to confirm that consecutive cut rolls have been delivered.
- B. Unroll sheet vinyl floor coverings and allow them to stabilize before cutting and fitting.
- C. Lay out sheet vinyl floor coverings as follows:
 - 1. Maintain uniformity of floor covering direction.
 - 2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches away from parallel joints in floor covering substrates.
 - 3. Match edges of floor coverings for color shading at seams.
 - 4. Avoid cross seams.

- D. Scribe and cut floor coverings to butt neatly and tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.
- E. Extend floor coverings into toe spaces, door reveals, closets, and similar openings.
- F. Maintain reference markers, holes, or openings that are in place or marked for future cutting by repeating on floor coverings as marked on substrates. Use chalk or other nonpermanent marking device.
- G. Install floor coverings on covers for telephone and electrical ducts and similar items in installation areas. Maintain overall continuity of color and pattern with pieces of floor coverings installed on covers. Tightly adhere floor covering edges to substrates that abut covers and to cover perimeters.
- H. Adhere floor coverings to 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. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and use 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. Integral Flash Cove Base: Cove floor coverings 4 inches up vertical surfaces. Support floor coverings at horizontal and vertical junction by cove strip. Butt at top against cap strip.

3.5 RESILIENT WALL BASE INSTALLATION

- A. Apply wall base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- B. Install wall base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
- C. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- D. Do not stretch wall base during installation.
- E. On masonry surfaces or other similar irregular substrates, fill voids along top edge of wall base with manufacturer's recommended adhesive filler material.
- F. Inside Corners: Meter, scribe or wrap base at inside corner.

- G. Outside Corners: Wrap base around outside corners. Shave a strip approximately 1/4" wide and 1/4 the thickness from the back of the wall base where the corner will be positioned.

3.6 RESILIENT ACCESSORY INSTALLATION

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

3.7 CLEANING AND PROTECTION

- A. Perform the following operations immediately after completing resilient product 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.
 - a. Do not wash surfaces until after time period recommended by manufacturer.
- B. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended in writing by manufacturer.
 - 1. Apply protective floor polish to all horizontal surfaces once they are free from soil, visible adhesive, and surface blemishes as recommended in writing by manufacturer.
 - a. Coordinate selection of floor polish with the Owner's maintenance service.
 - 2. Cover products installed on horizontal surfaces with undyed, untreated building paper until Substantial Completion.
 - 3. Do not move heavy and sharp objects directly over surfaces. Place hardboard or plywood panels over flooring and under objects while they are being moved. Slide or roll objects over panels without moving panels.
- C. Provide owner or owner's representative with in-service training seminar on manufacturer recommended application and maintenance of new resilient flooring surfaces at or prior to Substantial Completion.

END OF SECTION