

SECTION 096500

RESILIENT FLOORING

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 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. Resilient wall base and accessories.
 - 2. Vinyl sheet floor covering.
 - 3. Substrate preparation for resilient flooring and accessories.
- B. Alternates: Not Applicable.
- C. Items To Be Installed Only: Not Applicable.
- D. Items To Be Furnished Only: Not Applicable.
- E. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 - 1. Section 096723 - RESINOUS FLOORING for other flooring systems.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: Full-size units of each color and pattern of resilient flooring required.
 - 1. 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.
- C. Seam Samples: For seamless-installation technique indicated and for each floor covering product, color, and pattern required; with seam running lengthwise and in center of 6-by-9-inch Sample applied to a rigid backing and prepared by Installer for this Project.
- D. Maintenance Data: For resilient products to include in maintenance manuals.

1.4 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.

1.5 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.

1.6 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 flooring during the following time periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- B. After postinstallation 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 SHEET SLIP RESISTANT PVC FLOORING

- A. Slip Resistant Sheet Vinyl: To ASTM F1303, Type 2, Grade 1, sheet vinyl flooring with moisture resistant backing Class A. Static coefficient of slip resistance in excess of 0.6 when tested in accordance with ASTM D2047, AltroSan™ integrated bacteriostat, color selected by Consultant.
- B. Manufacturers:
 - 1. Armstrong World Industries, Inc.
 - 2. Congoleum Corporation.
 - 3. Forbo Flooring, Inc.
 - 4. Tarkett, Inc.
 - 5. B&H Commercial Services.

6. Basis of design: First Choice Safety Flooring by B&H Commercial Services;
www.safefloor.com/.
 - a. Product description: Heavy duty commercial flooring composed of 100% recycled thermoplastic polyvinylchloride, interlaced with nylon strand reinforcements and heated welded to form a waterproof monolithic membrane.
 - C. Product performance
 1. Absorption loss: 0.20 grams
 2. Bacteria / Mildew: Excellent resistance per ASTM G-21
 3. Friction Coefficient: Wet 0.88 and Dry 0.92 per ASTM D-2047
 4. Elongation: 100.0% min per ASTM D-412
 5. Embossing: Stippled face
 6. Critical radiant flux: 0.05 watts/ sq. cm or better, per ASTM E648
 7. Tensile Strength: 600 PSI (min) 1. ASTM D-412
 8. Thickness: 0.250 inches
 9. Weight: 27.15 ounces per sq.ft. per ASTM D-7510
 - D. Sheet size: Manufacturer standard 60 x 96 inch sheet.
 - E. Base type: Integral; field fabricated, inside and outside corners, 6 inch height or more with stainless steel cap.
 - F. Colors: Selected by Architect from full range.
 - G. Accessories:
 1. Thermoplastic vinyl welding rod: Acceptable material: manufacturer.
 2. Cove former: Acceptable material, sized to suit application.
 3. Cap strip: Acceptable material, sized to suit application, of stainless steel or aluminum, 0.050 thick or more.
 4. Joint cover strip: Acceptable material, vinyl, sized to suit application:
 5. Metal edge strips: Stainless steel, smooth, stainless steel with lip to extend under floor finish, shoulder flush with top of adjacent floor finish.
 - H. Adhesives: Use type recommended by manufacturer for application and substrate. Generally as follows:
 1. For floor coverings: Stabilized water-resistant 2-part epoxy.
 2. For wall application of cover base: A fast curing polyurethane adhesive.
 3. For metal top cap: A non-sagging, high performance industrial adhesive such as polyurethane.
- 2.2 RESILIENT WALL BASE
- A. Wall Base: ASTM F 1861.
 1. Armstrong World Industries, Inc.
 2. Johnsonite, A Tarkett Company.
 3. Nora Systems.
 4. Roppe Corporation.

B. Characteristics:

1. Style and Colors: As selected by Architect.
2. Type (Material Requirement): TS (rubber, vulcanized thermoset) or TP (rubber, thermoplastic).
3. Shape: Straight (toeless) at carpet and coved at resilient flooring.
4. Minimum Thickness: 0.125 inch.
5. Height: 4 inches.
6. Lengths: Cut lengths 48 inches long or coils in manufacturer's standard length.
7. Outside Corners: Premolded.
8. Inside Corners: Premolded.
9. Surface: Smooth.

2.3 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.
- 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.
- C. Seamless-Installation Accessories:
1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams. Color match floor covering.
- D. 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 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances, moisture content, and other conditions affecting performance.
1. 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 resilient products.
 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written recommendations 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. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
 - 3. Moisture Testing at Areas to Receive Sheet Flooring - Slabs-on-grade and Elevated Slabs:
 - a. Determine relative humidity in concrete floor slabs using in-situ probes per ASTM F 2170. Floor will typically be suitable for installation for readings under 75 percent, unless required otherwise by the flooring manufacturer.
 - b. Perform additional tests recommended by manufacturer prior to installation to verify substrate is suitable.
 - 4. Test for concrete deficiencies and contaminants such as un-reacted silicates, chlorides, A.S.R. (alkali-silica reaction); as recommended by manufacturer.
- 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. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.
- E. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates.
- F. 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.
- G. 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.
- H. Proceed with installation only after unsatisfactory conditions have been corrected. Installation of resilient flooring indicates acceptance of surfaces and conditions.

3.3 SHEET INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor coverings. Unroll floor coverings and allow them to stabilize before cutting and fitting.
- B. Lay out 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.
- C. Scribe and cut floor coverings to butt neatly and tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, and door frames.
- D. Extend floor coverings into toe spaces, door reveals, closets, and similar openings.
- E. 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.
- F. Install floor coverings on covers for telephone and electrical ducts and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of floor coverings installed on covers and adjoining floor covering. Tightly adhere floor covering edges to substrates that abut covers and to cover perimeters.
- G. 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.
- H. Seamless Installation:
1. 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.
- I. Integral-Flash-Cove Base: Cove floor coverings up vertical surfaces as indicated on the Drawings. Support floor coverings at horizontal and vertical junction by cove strip. Butt at top against cap strip.

3.4 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. Premolded Corners: Install premolded corners before installing straight pieces.

3.5 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.

3.6 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.
4. 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 horizontal surfaces that are free from soil, visible adhesive, and surface blemishes if recommended in writing by manufacturer.
 - a. Coordinate selection of floor polish with the Owner's Project Manager'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.

END OF SECTION