SECTION 09 65 00

RESILIENT FLOOR AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Requirements including but not limited to:

1. Solid vinyl floor tile.
2. Rubber floor tile.
3. Vinyl composition floor tile.
4. Resilient base.
5. Resilient accessories.

1.2 ACTION SUBMITTALS

A. Product Data: Technical data, installation instructions, and maintenance procedures for each product specified for each type of product.

B. Shop Drawings: Submit for each type of resilient flooring. Include floor covering layouts, edges, columns, doorways, enclosing partitions, built in furniture, cabinets, and cutouts.

1. Show details of special patterns.

C. Samples: Submit full size units of each color and pattern of floor tile required showing full range of variations anticipated.

1. For heat welding bead, not less than 9 inches (230 mm) long, of each color required applied to rigid backing.
2. For resilient accessories, submit samples not less than 12 inches (300 mm) long, of each resilient accessory color and pattern specified.
3. Linoleum Flooring: Submit 9 inch by 9 inch (230 mm by 230 mm) sample of each color and pattern of linoleum floor covering specified showing full range of variations anticipated.
4. Welded Seam Samples: For seamless installation technique indicated and for each flooring product, color, and pattern required; submit seam running lengthwise and in center of 9 inch by 9 inch (230 mm by 230 mm) Sample applied to a rigid backing and prepared by Installer.

D. Product Schedule: Submit for resilient flooring using same designations indicated on Drawings.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: Submit data for Installer.

B. Test Reports: Submit test result reports for:

1. Vapor and moisture testing.
2. Alkalinity and adhesion testing.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: Submit data for each type of resilient flooring to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Entity having minimum 5 years documented experience who employs trained or certified by manufacturer for required installation techniques and are competent in techniques required for resilient flooring.

1. Engage an installer who employs workers trained or certified by resilient flooring manufacturer for installation techniques required.

B. Source Limitations:

1. Tile: Obtain floor products of same type and color or finish from one source or producer. Obtain tile from same production run and of consistent quality in appearance and physical properties for each contiguous area.
2. Sheet Materials: Obtain sheet materials from same production run and of consistent quality in appearance and physical properties for each contiguous area.
3. Setting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.

C. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Coordinate mockups in this Section with mockups specified in other Sections.

a. Size: Minimum 100 sq. ft. (9.3 sq. m) for each type, color, and pattern in locations directed by Architect.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

A. 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 (10 degrees C) or more than 85 degrees F (29 degrees C). Store floor tiles on flat surfaces.

1.7 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 degrees F (21 degrees C) or more than 85 degrees F (29 degrees C), 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 installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 degrees F (13 degrees C) or more than 95 degrees F (35 degrees C).

C. Close spaces to traffic during floor installation.

D. Close spaces to traffic for 48 hours after floor installation.

E. Where demountable partitions, cabinets, and similar items are indicated for installation on top of resilient 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.

G. Install flooring after other finishing operations, including painting, have been completed.

1.8 MAINTENANCE 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 one box for every 25 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.
2. Sheet Flooring: Minimum 10 linear feet for each 500 linear feet (150 linear m) or fraction thereof, in roll form for each different type, color, and pattern installed.
3. Base: Minimum 10 linear feet for each 500 linear feet (150 linear m) or fraction thereof for each different type and color installed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire Test Response Characteristics: For resilient tile flooring, 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.
2. Smoke Density: Maximum specific optical density of 450 per ASTM E 662 or NFPA 258.
3. Flame Spread: Maximum 75 per ASTM E 84.

4. Smoke Developed: Maximum 450 per ASTM E 84.

B. Accessibility Requirements: Comply with applicable requirements.

1. U.S. Architectural and Transportation Barriers Compliance Board Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG) 2010.
2. ICC/ANSI A117.1 Accessible and Useable Building and Facilities.

2.2 MATERIALS

A. Products: Subject to compliance with requirements, provide products indicated on Drawings.

1. Solid Vinyl Tile Products: Subject to compliance with requirements, provide products indicated on Drawings.
2. Resilient Tile: Subject to compliance with requirements, provide products indicated on Drawings.
3. Rubber Sheet Flooring: Subject to compliance with requirements, provide products indicated on Drawings.
4. Rubber Base: Subject to compliance with requirements, provide products indicated on Drawings.
5. Rubber Stair Accessories: Subject to compliance with requirements, provide products indicated on Drawings.
6. Rubber Molding: Subject to compliance with requirements, provide products indicated on Drawings.

B. Solid Vinyl Tile: ASTM F 1700.

1. Class: As indicated by product designations.
2. Type: As indicated by product designations.

C. Luxury Vinyl Tile:

1. Class: As indicated by product designations.
2. Type: As indicated by product designations.

D. Vinyl Composition Tile:

1. Class: As indicated by product designations.
2. Type: As indicated by product designations.

E. Rubber Sheet Flooring with Backing: ASTM F 1860.

1. Class: As indicated by product designations.
2. Type: As indicated by product designations.

F. Thermoplastic Rubber Base: ASTM F 1861, Type TP (rubber, thermoplastic).

1. Class: As indicated by product designations.
2. Type: As indicated by product designations.

G. Rubber Stair Accessories:

1. Stair Treads: ASTM F 2169.
   a. Class: As indicated by product designations.
   b. Type: As indicated by product designations.

2. Separate Risers: Smooth, flat; in height that fully covers substrate; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.
   a. Style: As indicated by product designations.
   b. Type and Class: As indicated by product designations.

3. Stringers: Height and length after cutting to fit risers and treads and to cover stair stringers; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.

   a. Thickness: 0.125 inch (3.2 mm) unless otherwise indicated.

4. Landing Tile: Matching treads; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.
5. Locations: Provide rubber stair accessories in areas indicated.
6. Colors and Patterns: Selected by Architect.

H. Rubber Molding Accessory:

1. Stair tread nosing.
2. Cap for cove carpet.
3. Cap for cove resilient flooring.
4. Carpet bar for tackless installations.
5. Carpet edge for glue down applications.
6. Nosing for carpet.
7. Nosing for resilient flooring.
8. Reducer strip for resilient flooring.
9. Joiner for tile and carpet.
10. Transition strips.
11. Profile and Dimensions: As indicated.
12. Locations: Provide rubber molding accessories in areas indicated.
13. Colors and Patterns: Selected by Architect.

I. Installation Materials:

1. Trowelable Leveling and Patching Compounds: Latex modified, portland cement based formulation provided or approved by floor tile manufacturer for applications indicated.
2. Adhesives: Water resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.

J. Seamless Installation Accessories:

1. Chemical Bonding Compound: Recommended by flooring manufacturer.
2. Floor Polish: Protective, liquid floor polish products recommended by flooring manufacturer.

K. Stair Tread Nose Filler: Two part epoxy compound recommended by resilient stair tread manufacturer to fill nosing substrates that do not conform to tread contours.

L. Metal Edge Strips: Extruded aluminum with mill finish of width shown, of height required to protect exposed edges of flooring, and in maximum available lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates for compliance with requirements for maximum moisture content and other conditions affecting performance of the work.

1. Verify levelness and flatness of concrete floor surface is within tolerances recommended by resilient tile manufacturer.
2. Verify finishes of substrates comply with specified tolerances and requirements and substrates are free of cracks, ridges, depressions, scale, and foreign deposits that interfere with adhesion of floor tile.

B. Proceed with installation after correcting unsatisfactory conditions. Installation of resilient flooring and accessories indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Prepare substrates according to flooring manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare horizontal and vertical surfaces according to ASTM F 710.

1. Verify substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and substances incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
4. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft. (18.6 sq. m) and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
    b. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level.

5. Bond Test: Bond 3 feet by 3 foot (1 m by 1 m) panels spaced 50 feet (16.7 m) apart throughout subfloor area. After moisture test proves floor acceptably dry, install panels using adhesive. If panels are securely bonded after 72 hours, subfloor is sufficiently clean of foreign materials for satisfactory installation of resilient flooring.
6. Perform additional vapor and moisture tests recommended by manufacturer. If substrates fail to meet manufacturers recommended moisture content, remediate moisture. Proceed with floor covering installation after substrates past testing.

C. Moisture Remediation: Provide moisture vapor emissions control system specified in Section 09 61 05 should the moisture test results indicated the concrete substrate fails to obtain the minimum moisture vapor emissions rate required by the flooring covering manufacturer.

D. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.

E. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

F. Use stair tread nose filler, according to resilient tread manufacturer's written instructions, to fill nosing substrates that do not conform to tread contours.

G. Do not install flooring until materials are the same temperature as the installation space.

1. At least 48 hours in advance of installation, move resilient flooring and installation materials into installation.

H. Immediately before installation, sweep and vacuum clean substrates covered by resilient flooring.

3.3 INSTALLATION

A. Comply with manufacturer's written instructions for installing flooring and other materials included in the Scope of Work for this Section. Scribe and cut flooring to butt neatly and tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Extend finishes into toe spaces, door reveals, closets, and similar openings.

B. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on flooring as marked on substrates. Use chalk or other nonpermanent marking device.

C. Install flooring on covers for telephone and electrical ducts and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of flooring installed on covers and adjoining flooring. Tightly adhere flooring edges to substrates that abut covers and to cover perimeters.

D. Adhere flooring 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.

E. Floor Tile: Comply with manufacturer's written instructions for installing floor tile.

1. 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.

    a. Lay tiles in pattern indicated.

2. 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.

    a. Lay tiles in pattern of colors and sizes indicated; in the absence of such indications lay tiles with grain direction alternating in adjacent tiles (basket weave pattern) .

3. Seamless Installation:
    a. Chemically Bonded Seams: Bond seams with chemical bonding compound to permanently fuse sections into a seamless flooring. Prepare seams and apply compound to produce tightly fitted seams without gaps, overlays, or excess bonding compound on flooring surfaces.

F. Resilient Base: Comply with manufacturer's written instructions for installing resilient base. 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.

1. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned. Provide only coil stock material, do not utilize single ‘stick’ lengths.
2. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
3. Do not stretch resilient base during installation.
4. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
5. Job Formed Corners:

    a. Outside Corners: Provide continuous application utilizing field / job formed corners.
    b. Form without producing discoloration (whitening) at bends.
    c. Inside Corners: Provide continuous application utilizing field / job formed corners.

        1) Miter or cope corners to minimize open joints.

G. Preformed Cove Base: Comply with manufacturer's written instructions.

1. Dry fit base. Cut and fit material to required lengths, miter cut inside and outside corners.
2. Dry fit and cut metal cove cap prior to base installation.

3. Scribe glue line on walls and floor at edge of base material. Apply adhesive in full spread (100% coverage on two surfaces) for full length of base material. Apply base to wall surface straight and level.
4. Slide cove cap behind base material.
5. Hand roll base material onto wall and floor surface, and remove bumps, ripples, and fishmouths. Remove excess adhesive.

H. Resilient Accessories: Comply with manufacturer's written instructions for installing resilient accessories.

1. Resilient Stair Accessories: Use stair tread nose filler to fill nosing substrates that do not conform to tread contours. Tightly adhere to substrates throughout length of each piece.

a. For treads installed as separate, equal-length units, install to produce a flush joint between units.

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

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.

B. Perform cleaning operations immediately after completing flooring 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 flooring 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, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.

1. Apply two coat(s).

E. Joint Sealant: Apply sealant to resilient terrazzo floor tile perimeter and around columns, at door frames, and at other joints and penetrations.

F. 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 three coats of liquid floor finish.

G. Cover flooring until Substantial Completion.

H. Clean floor surfaces not more than 4 days before dates scheduled for inspections intended to establish date of Substantial Completion in each area of Project. Clean products according to manufacturer's written recommendations.

1. Before cleaning, strip protective floor polish.
2. Reapply polish to floor surfaces to restore protective floor finish according to flooring manufacturer's written recommendations.

END OF SECTION