

SECTION 09 65 19
RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. This section specifies the installation of solid vinyl tile flooring, luxury vinyl tile and accessories required for a complete installation.

1.2 RELATED WORK:

- A. Sustainable Design Requirements: Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS.
- B. Resilient Base: Section 09 65 13, RESILIENT BASE AND ACCESSORIES.
- C. Color, Pattern and Texture for Resilient Tile Flooring and Accessories: See drawings sheets AE901 ROOM FINISH SCHEDULE AND AI111 1ST FLOOR FINISH PLAN.

1.3 SUBMITTALS:

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Sustainable Design Submittals as described below:
1. Volatile organic compounds per volume as described in PART 2 - PRODUCTS.
 2. Postconsumer and preconsumer recycled content as described in PART 2 - PRODUCTS.
- C. Manufacturer's Literature and Data:
1. Description of each product.
 2. Resilient material manufacturer's recommendations for adhesives, underlayment, primers, and polish.
 3. Application, installation and maintenance instructions.
- D. Samples:
1. Tiles and Planks: Each type, color, thickness and finish.
 2. Edge Strips: Each type, color, thickness and finish.
 3. Feature Strips: Each type, color, thickness and finish.
- E. Shop Drawings:
1. Layout of patterns as shown on the construction documents.
 2. Edge strip locations showing types and detail cross sections.
- F. Test Reports:
1. Abrasion resistance: Depth of wear for each tile type and color and volume loss of tile, certified by independent laboratory. Tested per ASTM F510/F510M.

2. Moisture and pH test results as per Section 09 05 16, SUBSURFACE PREPARATION FOR FLOOR FINISHES.

1.4 DELIVERY:

- A. Deliver materials to the site in original sealed packages or containers, clearly marked with the manufacturer's name or brand, type and color, production run number and date of manufacture.
- B. Materials from containers which have been distorted, damaged or opened prior to installation are not acceptable.

1.5 STORAGE:

- A. Store materials in a clean, dry, enclosed space off the ground, protected from harmful weather conditions and at temperature and humidity conditions recommended by the manufacturer. Protect adhesives from freezing. Store flooring, adhesives, and accessories in the spaces where they will be installed for at least 48 hours before beginning installation.

1.6 QUALITY ASSURANCE:

- A. Installer Qualifications: A company specializing in installation with minimum three (3) years' experience and employs experienced flooring installers who have retained, and currently hold, an INSTALL Certification, or a certification from a comparable certification program.
 - 1. Installers to be certified by INSTALL or a comparable certification program with the following minimum criteria:
 - a. US Department of Labor approved four (4) year apprenticeship program, 160 hours a year.
 - b. Career long training.
 - c. Manufacturer endorsed training.
 - d. Fundamental journeyman skills certification.
- B. Furnish product type materials from the same production run.

1.7 WARRANTY:

- A. Construction Warranty: Comply with FAR clause 52.246-21, "Warranty of Construction".

1.8 APPLICABLE PUBLICATIONS:

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. ASTM International (ASTM):

- D2047-11.....Test Method for Static Coefficient of Friction
of Polish-Coated Flooring Surfaces as Measured
by the James Machine
- D2240-05(R2010).....Test Method for Rubber Property–Durometer
Hardness
- D4078-02(R2008).....Water Emulsion Floor Finish
- E648-14c.....Critical Radiant Flux of Floor Covering Systems
Using a Radiant Energy Source
- E662-14.....Specific Optical Density of Smoke Generated by
Solid Materials
- E1155/E1155M-14.....Determining Floor Flatness and Floor Levelness
Numbers
- F510/F510M-14.....Resistance to Abrasion of Resilient Floor
Coverings Using an Abrader with a Grit Feed
Method
- F710-11.....Preparing Concrete Floors to Receive Resilient
Flooring
- F925-13.....Test Method for Resistance to Chemicals of
Resilient Flooring
- F1066-04(R2014).....Vinyl Composition Floor Tile
- F1344-12(R2013).....Rubber Floor Tile
- F1700-13a.....Solid Vinyl Floor Tile
- F1869-11.....Test Method for Measuring Moisture Vapor
Emission Rate of Concrete Subfloor Using
Anhydrous Calcium Chloride
- F2170-11.....Test Method for Determining Relative Humidity
in Concrete Floor Slabs Using in Situ Probes
- F2195-13.....Linoleum Floor Tile
- C. Code of Federal Regulation (CFR):
- 40 CFR 59.....Determination of Volatile Matter Content, Water
Content, Density Volume Solids, and Weight
Solids of Surface Coating
- D. International Standards and Training Alliance (INSTALL):

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS:

- A. Provide adhesives, underlayment, primers, and polish recommended by resilient floor material manufacturer.

- B. Critical Radiant Flux: 0.45 watts per sq. cm or more, Class I, per ASTM E648.
- C. Smoke Density: Less than 450 per ASTM E662.
- D. Slip Resistance - Not less than 0.5 when tested with ASTM D2047.

2.2 LUXURY VINYL TILE: PLANKS

- A. ASTM F1700, Class III, Printed Film Vinyl Tile, Type B.
- B. Thickness: 12 mil (1/8 inch) and 2.5 mm (3/32 inch).
- C. Size: 3", 4", 5" and 7" wide, 36" and 48" long.

2.3 LUXURY VINYL TILE: TILES

- A. ASTM F1700, Class III, Printed Film Vinyl Tile, Type A.
- B. Thickness: 2.5 mm (3/32 inch).
- C. Size: 60cm x 60cm (23 5/8" x 23 5/8").

2.4 ADHESIVES:

- A. Provide water resistant type adhesive for flooring, base and accessories as recommended by the manufacturer to suit substrate conditions. VOC content to be less than the 50 grams/L when calculated according to 40 CFR 59 (EPA Method 24). Submit manufacturer's descriptive data, documentation stating physical characteristics, and mildew and germicidal characteristics.

2.5 PRIMER FOR CONCRETE SUBFLOORS:

- A. Provide in accordance with Section 09 05 16, SUBSURFACE PREPARATION FOR FLOOR FINISHES.

2.6 LEVELING COMPOUND FOR CONCRETE FLOORS:

- A. Provide cementitious products with latex or polyvinyl acetate resins in the mix in accordance with Section 09 05 16, SUBSURFACE PREPARATION FOR FLOOR FINISHES.

2.7 POLISH AND CLEANERS:

- A. Cleaners: As recommended in writing by floor tile manufacturer.
- B. Polish: ASTM D4078.

2.8 MOULDING:

- A. Provide tapered mouldings of vinyl, rubber or clear anodized aluminum, and types as indicated on the construction documents for both edges and transitions of flooring materials specified. Provide vertical lip on moulding of maximum 6 mm (1/4 inch). Provide bevel change in level between 6 and 13 mm (1/4 and 1/2 inch) with a slope no greater than 1:2.
- B. Fasteners for Aluminum Mouldings: Stainless steel of type required for substrate condition.

PART 3 - EXECUTION**3.1 ENVIRONMENTAL REQUIREMENTS:**

- A. Maintain flooring materials and areas to receive resilient flooring at a temperature above 20 degrees C (68 degrees F) for three (3) days before application, during application and two (2) days after application, unless otherwise directly by the flooring manufacturer for the flooring being installed. Maintain a minimum temperature of 13 degrees C (55 degrees F) thereafter. Provide adequate ventilation to remove moisture from area and to comply with regulations limiting concentrations of hazardous vapors.
- B. Do not install flooring until building is permanently enclosed and wet construction in or near areas to receive tile materials is complete, dry and cured.

3.2 SUBFLOOR TESTING AND PREPARATION:

- A. Prepare and test surfaces to receive resilient tile and adhesive as per Section 09 05 16, SUBSURFACE PREPARATION FOR FLOOR FINISHES.
- B. Prepare concrete substrates in accordance with ASTM F710.

3.3 INSTALLATION:

- A. Install in accordance with manufacturer's instructions for application and installation unless specified otherwise.
- B. Mix tile from at least two containers. An apparent line either of shades or pattern variance is not acceptable.
- C. Tile Layout:
 - 1. If layout is not shown on construction documents, lay tile symmetrically about center of room or space with joints aligned.
 - 2. Vary edge width as necessary to maintain full size tiles in the field, no edge tile to be less than 1/2 the field tile size, except where irregular shaped rooms make it impossible.
 - 3. Place tile pattern in the same direction; do not alternate tiles unless specifically indicated in the construction documents to the contrary.
- D. Application:
 - 1. Adhere floor tile 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.

2. 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.
 3. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
 4. Roll tile floor with a minimum 45 kg (100 pound) roller.
- E. Seal joints at pipes with sealants in accordance with Section 07 92 00, JOINT SEALANTS.
- F. Installation of Edge Strips:
1. Locate edge strips under center line of doors unless otherwise shown on construction documents.
 2. Set resilient edge strips in adhesive. Anchor metal edge strips with anchors and screws.
 3. Where tile edge is exposed, butt edge strip to touch along tile edge.
 4. Where thin set ceramic tile abuts resilient tile, set edge strip against floor file and against the ceramic tile edge.

Z E 3.4 CLEANING AND PROTECTION:

- A. Clean adhesive marks on exposed surfaces during the application of resilient materials before the adhesive sets. Exposed adhesive is not acceptable.
- B. Keep traffic off resilient material for a minimum 72 hours after installation.
- C. Clean flooring as recommended in accordance with manufacturer's printed maintenance instructions and within the recommended time frame. As required by the manufacturer, apply the recommended number of coats and type of polish and/or finish in accordance with manufacturer's written instructions.
- D. When construction traffic occurs over tile, cover resilient materials with reinforced kraft paper properly secured and maintained until removal is directed by COR. At entrances and where wheeled vehicles or carts are used, cover tile with plywood, hardboard, or particle board over paper, secured and maintained until removal is directed by COR.
- E. When protective materials are removed and immediately prior to acceptance, replace damaged tile and mouldings, re-clean resilient materials.

3.5 LOCATION:

- A. Unless otherwise indicated in construction documents, install tile flooring, under areas where casework, laboratory and pharmacy furniture and other equipment occur.
- B. Extend tile flooring for room into adjacent closets and alcoves.

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