

**SECTION 09 65 19  
RESILIENT TILE FLOORING**

**PART 1 - GENERAL**

**1.1 DESCRIPTION:**

- A. This section specifies the installation of rubber tile and accessories required for a complete installation.

**1.2 RELATED WORK:**

- A. Resilient Base: Section 09 65 13, RESILIENT BASE AND ACCESSORIES.
- B. Subfloor Testing and Preparation: Section 09 05 16, SUBSURFACE PREPARATION FOR FLOOR FINISHES.

**1.3 SUBMITTALS:**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

**1. PRODUCTS**

A. 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.

B. Samples:

- 1. Tile: Each type, color, thickness and finish.
- 2. Edge Strips: Each type, color, thickness and finish.
- 3. Feature Strips: Each type, color, thickness and finish.

C. 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.
- 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 Extra Materials:**

Furnish spare tiles, from the same lot as those installed, of each color at the rate of 10% of the project.

**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 RUBBER TILE:**

- A. Tile Standard: ASTM F1344, Class I-B, homogeneous rubber tile, through

- B. Hardness: Not less than 82 as required by ASTM F1344 , measured using Shore, Type A durometer per ASTM D2240.
- C. Wearing Surface: Textured/
- D. Thickness: 3.5 mm (0.14 inch)
- E. Size: 40 inches x 40 inches

**2.7 ADHESIVES:**

- A. Provide water resistant type adhesive for flooring, base and accessories as recommended by the manufacturer to suit substrate conditions. Submit manufacturer's descriptive data, documentation stating physical characteristics, and mildew and germicidal characteristics.

**2.8 PRIMER FOR CONCRETE SUBFLOORS:**

- A. As recommended by the adhesive or flooring manufacturer.

**2.9 LEVELING COMPOUND FOR CONCRETE FLOORS:**

- A. Provide cementitious products with latex or polyvinyl acetate resins in the mix.

**2.10 POLISH AND CLEANERS:**

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

**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. Concrete Subfloors: Verify that concrete slabs comply with ASTM F710.
  - 1. Installer shall examine surfaces on which resilient sheet flooring is to be installed, and shall advise Contractor, in writing, of areas which are unacceptable for installation of flooring material. Installer shall advise Contractor which methods are to be used to correct conditions that will impair proper installation. Installation shall not proceed until unsatisfactory conditions have been corrected.
  - 2. Slab substrates dry, free of curing compounds, sealers, hardeners, and other materials which would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by Resilient Floor Covering Institute recommendations in manual RFCI-MRP.
- B. Broom or vacuum clean substrates to be covered by sheet vinyl floor coverings immediately before installation. Following cleaning, examine substrates to determine if there is visually any evidence of moisture, alkaline salts, carbonation, or dust.
- C. Primer: If recommended by flooring manufacturer, prior to application of adhesive, apply concrete slab primer in accordance with manufacturer's directions.
- D. Correct conditions which will impair proper installation, including trowel marks, pits, dents, protrusions, cracks or joints.
- E. Fill cracks, joints, depressions, and other irregularities in concrete with leveling compound.
  - 1. Do not use adhesive for filling or leveling purposes.
  - 2. Do not use leveling compound to correct imperfections which can be corrected by spot grinding.
  - 3. Trowel to smooth surface free of trowel marks, pits, dents, protrusions, cracks or joint lines.
- F. Clean floor of oil, paint, dust and deleterious substances. Leave floor dry and cured free of residue from existing curing or cleaning agents.
- G. Concrete Subfloor Testing:
  - 1. Determine adhesion and dryness of the floor by bond and moisture tests as recommended by RFCI manual MPR.
- H. Preparation shall include the removal of existing resilient floor and existing adhesive. Do not use solvents to remove adhesives. Coordinate with Asbestos Abatement Section if asbestos abatement procedures will be involved.
- I. Remove existing resilient flooring and adhesive completely in accordance with resilient floor covering institute recommendations in manual rfci-wp. Solvents shall not be used.

**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.

**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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