

**SECTION 09 65 19
RESILIENT TILE FLOORING**

SPEC WRITER NOTES:

1. Use this section only for NCA projects.
2. Delete between // _____// if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies the installation of //solid vinyl tile flooring (monolithic), // //solid vinyl tile flooring (luxury vinyl tile), // //rubber tile flooring, // //biobased tile flooring// and accessories.

1.2 RELATED WORK

- A. Color and pattern and location in room finish schedule: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Resilient Base: Section 09 65 13, RESILIENT BASE AND ACCESSORIES.

1.3 PERFORMANCE REQUIREMENTS

- A. VOC Emissions:
1. Provide low VOC products and adhesive with Green Seal Certification to GS-36 and description of the basis for certification //; or // . //

SPEC WRITER NOTES:

1. Select the paragraph 1 or 2 or both.
 2. // Submit manufacturer's certification that products comply with SCAQMD Rule 1168. //
- B. Finish Flooring: Provide Floor Score certification.

SPEC WRITER NOTES:

1. Review USDA Biopreferred Categories for listed materials within the scope of the following paragraph and include additional requirements, unless justification for non-use exists.
- C. Flooring Bio-based Content: Minimum // ___ // percent biobased materials.

1.4 SUSTAINABILITY REQUIREMENTS

- A. Materials in this section may contribute towards contract compliance with sustainability requirements. See Section 01 81 13, SUSTAINABLE DESIGN REQUIRMENTS, for project // local/regional materials, // low-

emitting materials, // recycled content, // certified wood // _____// requirements.

- B. Biobased Material: For products designated by the USDA's BioPreferred® program, provide products that meet or exceed USDA recommendations for biobased content, subject to the products compliance with performance requirements in this Section. For more information regarding the product categories covered by the BioPreferred® program, visit <http://www.biopreferred.gov>.

1.5 REGULATORY REQUIREMENTS FOR RECYCLED CONTENT

- A. Products and Materials with Post-Consumer Content and Recovered Materials Content:
1. Contractor is obligated by contract to satisfy Federal mandates for procurement of products and materials meeting recommendations for post-consumer content and recovered materials content; the list of designated product categories with recommendations has been compiled by the EPA - refer to <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program#directory>.
 2. Materials or products specified by this section may be obligated to satisfy this Federal mandate and Comprehensive Procurement Guidelines program.
 3. The EPA website also provides tools such as a Comprehensive Procurement Guideline (CPG) Program and Product Supplier Directory search engine and product resource guides.
- B. Fulfillment of regulatory requirements does not relieve the Contractor of satisfying sustainability requirements stipulated by Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS, as it relates to recycled content; additional product and material selections with recycled content may be required, as determined by Contractor's Sustainability Action Plan.

1.6 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Provide documentation of conformance with performance requirements of this section.
- C. Manufacturer's Literature and Data:
 1. Description of each product.

2. Resilient material manufacturers' recommendations for adhesives, underlayment, primers and polish.

3. Application and installation instructions.

D. Samples:

1. Tile: 300 mm by 300 mm (12 inches by 12 inches) for each type, pattern and color.

2. Edge Strips: 150 mm (6 inches) long, each type.

3. Feature Strips: 150 mm (6 inches) long.

E. Shop Drawings:

1. Layout of patterns shown on the drawings and in Section 09 06 00, SCHEDULE FOR FINISHES.

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.

2. Tested per ASTM F510.

1.7 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 will be rejected.

1.8 STORAGE

A. Store materials in weathertight and dry storage facility.

B. Protect from damage from handling, water, and temperature.

1.9 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by the basic designation only. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.

SPEC WRITER NOTES:

1. Remove reference citations that do not remain in Part 2 or Part 3 of edited specification.

2. Verify and make dates indicated for remaining citations the most current at date of submittal; determine changes from date indicated on the TIL download of the section and modify requirements impacted by the changes.

B. American Society for Testing and Materials (ASTM):

D4078-02R21	Water Emulsion Floor Finish
E648-19AE1	Critical Radiant Flux of Floor Covering Systems Using a Radiant Energy Source
E662-21AE1	Specific Optical Density of Smoke Generated by Solid Materials
E1155-20	Determining Floor Flatness and Floor Levelness Numbers
F510-20	Resistance to Abrasion of Resilient Floor Coverings Using an Abrader with a Grit Feed Method
F710-21	Preparing Concrete Floors to Receive Resilient Flooring
F1344-21a	Rubber Floor Tile
F1700-20	Solid Vinyl Floor Tile
F1869-22	Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
F2170-19a	Determining Relative Humidity in Concrete Floor Slabs using In-situ Probes
F410-08R22	Wear Layer Thickness of Resilient Floor Coverings by Optical Measurement

C. Green Seal (GS):

GS-36(2021) Commercial Adhesives

D. South Coast Air Quality Management District (SCAQMD)

E. Resilient Floor Covering Institute (RFCI):

Recommended Work Practices for Removal of Resilient Floor Coverings

PART 2 - PRODUCTS

2.1 GENERAL

- A. Furnish product type, materials of the same production run and meeting following criteria.
- B. Use adhesives, underlayment, primers and polish recommended by the floor resilient material manufacturer.
- C. Critical Radiant Flux: 0.45 watts per sq. cm or more, Class I, per ASTM E648.
- D. Smoke Density: Less than 450 per ASTM E662.

SPEC WRITER NOTES:

1. Review USDA Biopreferred Categories for listed materials within the scope of the following paragraph and include

additional requirements, unless justification for non-use exists.

2.2 SOLID VINYL-TILE (MONOLITHIC VINYL TILES)

- A. ASTM F1700, Class I monolithic, Type A smooth; 300 mm (12 by 12 inches)// _____ // square, minimum 3 mm (1/8 inch) thick.
- B. Color and pattern uniformly distributed throughout thickness.
- C. Where solid vinyl tiles are specified, seek products with recycled content.

2.3 SOLID VINYL-TILE (LUXURY VINYL TILES)

- A. ASTM F1700, Class III printed film vinyl tiles, Type B embossed.
- B. Size: // 305 x 305 mm (12 x 12 inches) // // 457 x 457 mm (18 x 18 inches) // // 610 x 610 mm (24 x 24 inches) // // 914 x 914 mm (36 x 36 inches) // // 76 x 914 mm (3 x 36 inches) // // //.
- C. Thickness: // 2.0 mm (0.080 inch) // // 2.5 mm (0.100 inch) // // 3.0 mm (0.120 inch) // // 3.2 mm (0.125 inch) // //5.0 mm (.197 inch)// // //.
- D. Printed film color and pattern covered with clear vinyl wear layer complying with ASTM F410: //20 mil//, //32 mil//, //40 mil//, // //.
- E. Where luxury vinyl tiles are specified, seek products with recycled content.

2.4 RUBBER TILE

- A. ASTM F1344, Class 1, homogenous rubber tile, Type B through mottled, //300 mm (12 inches)// //_____ // square, minimum 3 mm (1/8 inch) thick.
- B. Color and pattern uniformly distributed throughout tile.
- C. Molded pattern wearing surface base thickness 3 mm (1/8 inch) thick.
- D. Where rubber tile is used provide tiles with a minimum of 90 percent post consumer rubber.

2.5 ADHESIVES

- A. Comply with applicable regulations regarding toxic and hazardous materials Green Seal (GS-36) for commercial adhesive.

2.6 PRIMER (FOR CONCRETE SUBFLOORS)

- A. As recommended by the adhesive and tile manufacturer.

2.7 LEVELING COMPOUND (FOR CONCRETE FLOORS)

- A. Provide cementitious products with latex or polyvinyl acetate resins in the mix.
- B. Determine the type of underlayment selected for use by the condition to be corrected.

2.8 POLISH AND CLEANERS

- A. Cleaners RFCI CL-1.
- B. Polish: ASTM D4078.

2.9 EDGE STRIPS

- A. Provide 28 mm (1-1/8 inch) wide unless shown otherwise.
- B. Bevel from maximum thickness to minimum thickness for flush joint unless shown otherwise.
- C. Extruded aluminum, mill finish, mechanically cleaned:
 - 1. Drill and counter sink edge strip for flat head screws.
 - 2. Space holes near ends and approximately 225 mm (9 inches) on center between.
- D. Resilient Edge Strip or Reducer Strip: Solid vinyl.

2.10 SCREWS

- A. Stainless steel flat head screw.

SPEC WRITER NOTES:

- 1. Verify special feature strips are shown and detailed.

2.11 FEATURE STRIPS

- A. Use same material as floor tile.
- B. Sizes and shapes as shown on drawings.

PART 3 - EXECUTION**3.1 PROJECT CONDITIONS**

- A. Maintain temperature of materials a minimum of 22 °C (70 °F,) for 48 hours before installation.
- B. Maintain temperature of rooms where work occurs between 21 °C and 27 °C (70 °F and 80 °F), for at least 48 hours, before, during and after installation.
- C. 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 PREPARATION

- A. Verify that concrete slabs comply with ASTM F710. At existing slabs, determine levelness by F-number method in accordance with ASTM E1155; overall value not to exceed FF30/FL20.
- B. Correct conditions which will impair proper installation.
- C. Fill cracks, joints 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 joints.
- D. Clean floor of oil, paint, dust, and deleterious substances: Leave floor dry and cured free of residue from existing curing or cleaning agents.
- E. Moisture Testing: Perform moisture and pH test as recommended by the flooring and adhesive manufacturers. Perform test locations starting on the deepest part of the concrete structure. Proceed with installation only after concrete substrates meet or exceed the manufacturer's requirements. In the absence of specific guidance from the flooring or adhesive manufacturer the following requirements are to be met:
1. Perform moisture vapor emission tests in accordance with ASTM F1869. Proceed with installation only after substrates have a maximum moisture-vapor-emission rate of 1.36 kg of water/92.9 sq. m (3lb of water/1000 sq. ft.) in 24 hours.
 2. Perform concrete internal relative humidity testing using situ probes in accordance with ASTM F2170. Proceed with installation only after concrete reaches maximum 75 percent relative humidity level measurement.
- F. Perform additional subfloor preparation to obtain satisfactory adherence of flooring if subfloor test patches allows easy removal of tile.
- G. Prime the concrete subfloor if the primer will seal slab conditions that would inhibit bonding, or if priming is recommended by the tile or adhesive manufacturers.
- //H. Preparation of existing installation includes the removal of existing resilient floor and existing adhesive. Do not use solvents to remove adhesives. //

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 of shade or pattern variance will not be accepted.
- C. Tile Layout:
 1. If layout is not shown on drawings, lay tile symmetrically about center of room or space with joints aligned.

2. Do not provide tile less than 150 mm (6 inches) and of equal width at walls.
 3. Place tile pattern in the same direction; do not alternate tiles.
- D. Trim tiles to touch for the length of intersections at pipes and vertical projections, seal joints at pipes with waterproof cement.
- E. Application:
1. Apply adhesive uniformly without open cracks, voids, raising and puckering at joint, or other surface imperfections.
 - a. Conform to manufacturer's instructions for joint tightness and for corner intersection unless layout pattern shows random corner intersection.
 - b. More than 5 percent of the joints not touching will not be accepted.
 2. Roll tile floor with a minimum 45 kg (100 pound) roller. No exceptions.
 3. The COR may have test tiles removed to check for non-uniform adhesion, spotty adhesive coverage, and ease of removal. Install new tile for broken removed tile.
- F. Installation of Edge Strips:
1. Locate edge strips under center line of doors unless otherwise shown.
 2. Set resilient edge strips in adhesive. Anchor metal edge strips with anchors and screws specified.
 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. Follow manufacturer's instructions for cleaning and protection during the construction period.

3.5 LOCATION

- A. Unless otherwise specified or shown, install tile flooring, on floor under areas where casework and other equipment occurs, except where mounted in wall recesses.
- B. Extend tile flooring for room into adjacent closets and alcoves.

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