SECTION 09 65 19

RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies the installation of rubber tile flooring, and accessories.

1.2 RELATED WORK

A. Color and pattern and location in room finish schedule: Refer to Room Finish Schedule indicated on the Drawings.

B. Resilient Base: Section 09 65 13, RESILIENT BASE AND ACCESSORIES.

1.3 SUBMITTALS

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

B. 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.

C. 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.

D. Shop Drawings:

1. Layout of patterns shown on the drawings and in Room Finish Schedule indicated on the Drawings.
2. Edge strip locations showing types and detail cross sections.

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 will be rejected.

1.5 STORAGE

A. Store materials in weathertight and dry storage facility.

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

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

1. D4078-02 (2008) Water Emulsion Floor Finish
2. E648-10 Critical Radiant Flux of Floor Covering Systems Using a Radiant Energy Source
3. E662-09 Specific Optical Density of Smoke Generated by Solid Materials
4. E1155-96 (R2008) Determining Floor Flatness and Floor Levelness Numbers
5. F510-93 (R 2008) Resistance to Abrasion of Resilient Floor Coverings Using an Abrader with a Grit Feed Method
6. F710-08 Preparing Concrete Floors to Receive Resilient Flooring
7. F1066-04 (R2010) Vinyl Composition Floor Tile
8. F1344-10 Rubber Floor Tile
9. F1700-04 (R2010) Solid Vinyl Floor Tile

C. Resilient Floor Covering Institute (RFCI):

1. IP #2 Installation Practice for Vinyl Composition Tile (VCT)

D. Federal Specifications (Fed. Spec.):

1. SS-T-312 Tile Floor: Asphalt, Rubber, Vinyl and Vinyl Composition

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 E 648.

D. Smoke density: Less than 450 per ASTM E662.

2.2 RUBBER TILE

A. ASTM F1344, Class 1, homogenous rubber tile, B, through mottled, 300 mm (12 inches) square, 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% post consumer rubber.

Material: nora vulcanized rubber compound 913 with abundant natural fillers and environmentally compatible color pigments
Surface: Smooth
Color: As selected
Tile Size: 0.08 inches (2mm) thickness, 24 inches by 24 inches (610mm by 610mm)
Back of Tile: Smooth, double-sanded back
Heterogeneous: Yes, mottled
Limited Wear Warranty: 5 years
Hardness: ASTM D2240, Shore type A, required ≥ 75
Static Load: Per ASTM F970 Standard Test Method for Static Load Limit, residual compression, when tested with 800 lbs, ≤ 0.005”
Quality of Cut: ASTM F511 ≤ 0.005”
Squareness: ASTM F2055 ≤ 0.010”
ISO 14001: Manufacturer shall be ISO 14001 Environmental Management Systems Certified
PVC Free: Product shall contain no polyvinyl chloride
Abrasion Resistance: Taber abrasion test, ASTM D3389, H-18 wheel, 500 gram load, 1000 cycles, gram weight loss ≤ 0.4
Slip Resistance: Static coefficient of friction (James Test): ASTM D2047, ≥ 0.8
Bacteria Resistance: Product shall be resistant to bacteria, fungi, and micro-organism activity, according to ASTM E2180 and ASTM G21
Halogen Free: Product shall contain no halogens
Sound Absorption: ISO 140-8 Footfall Sound Absorption, 6 dB
Burn Resistance: Cigarette and solder burn resistance
Heat Resistance: Avg. Delta E <8.0 per ASTM F1514
Flammability: ASTM E648; NFPA 253; NBSIR 75 950, ≥ 0.45 watts per square centimeter, Class 1
Smoke Density: ASTM E662, NFPA 258, NBS smoke density, < 450
Asbestos Free: Product shall contain no asbestos
Non Hazardous: Flooring shall be made without any chemicals that may be hazardous or containing any teratogenic, mutagenic or any other ingredients known to be carcinogenic
Cleaning: Flooring surface shall have the ability to be cleaned and maintained without the use of any chemicals that may be hazardous or containing any teratogenic, mutagenic or any other ingredients known to be carcinogenic. Manufacturer shall make available a cleaning system that effectively cleans the flooring surface using water, cleaning pads and a suitable cleaning machine, without the use of factory and/or field-applied coatings.
Shine: Higher shine surfaces can be achieved by dry buffing without any artificial topical applied coatings

E. Refer to AS 6-22, Room Finish Schedule, Interior Finish Legend, RF-1 through RF-4 for manufacturer, style and color.

2.3 ADHESIVES

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

B. Use low-VOC adhesive during installation. Water based is preferred over solvent based adhesives.

2.4 PRIMER (FOR CONCRETE SUBFLOORS)

A. As recommended by the adhesive and tile manufacturer.

2.5 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.

2.6 POLISH AND CLEANERS

A. Cleaners RFCI CL-1.

B. Polish: ASTM D4078.

2.7 EDGE STRIPS

A. Refer to Room Finish Schedule indicated on the Drawings.

B. Resilient Edge Strip or Reducer Strip: Solid vinyl and rubber.

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 shall not exceed as follows:

   1. 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. Concrete Subfloor Testing:

1. Determine Adhesion and dryness of the floor by bond and moisture tests as recommended by RFCI manual MRP.

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 shall include 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 either of shades 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. No tile shall be 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 with no bare spots.

a. Conform to RFC1-TM-6 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 Project Engineer 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. 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 and polish materials in the following order:

1. For the first two weeks sweep and damp mopped only.
2. After two weeks, scrub resilient materials with a minimum amount of water and a mild detergent. Leave surface clean and free of detergent residue.
3. Apply polish to the floors in accordance with the polish manufacturer's instructions.

D. When construction traffic occurs over tile, cover resilient materials with reinforced kraft paper properly secured and maintained until removal is directed by Project Engineer. 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 Project Engineer.

E. When protective materials are removed and immediately prior to acceptance, replace any damage tile, re-clean resilient materials, lightly re-apply polish and buff floors.

3.5 LOCATION

A. Unless otherwise specified or shown, install tile flooring, on floor under areas where casework, laboratory and pharmacy furniture 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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