

09652 RESILIENT TILE FLOORING

SPECIFIER: Specific resilient tile products specified in this section are tile that have been tested by the MDCPS Materials Testing and Evaluation Laboratory to verify producer's claims of abrasion resistance, homogeneous dispersion of marbling, and static coefficient of friction (SCoF). Specify only approved products that have been tested and listed by MDCPS.

Because only one product has tested to the SCoF required for ramps, the designer should consider using seamless epoxy-quartz flooring for such a sensitive area.

CSI 2004 MasterFormat number: 09 65 19.

An optional keynote to the Drawings follows major product titles, for A/Es using National CAD Standard.

PART 1 GENERAL

1.1 RELATED REQUIREMENTS

- A. Coordinate resilient tile flooring with work before and after. See especially:
- | | |
|---|-------|
| 1. Finish on concrete floors | 03300 |
| 2. Plumbing floor cover plates with recess for carpet | 15431 |
| 3. Electrical and telephone floor cover plates with recess for carpet | 16132 |
- B. Definition of "homogeneous tile" and "through-pattern tile": Tile that is homogenous the full depth of the tile so that a reasonably uniform pattern is visible at each depth to which the tile is abraded.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM). Test methods and standards for:
1. D2047-04 Static Coefficient of Friction of Polish-Coated Flooring Surfaces, as Measured by the James Machine
 2. E84-05 Surface Burning Characteristics of Building Materials.
 3. E648-04 Radiant Flux of Floor-Coverings - Radiant Heat Energy Source (includes CPSC FF-01).
 4. E662-03 Specific Optical Density of Smoke Generated by Solid Materials.
 5. F510-04 Resistance to Abrasion of Resilient Floor Coverings Using Abrader.
 6. F710-04 Preparing Concrete Floors to Receive Resilient Flooring.
 7. F1066-04 Vinyl Composition Floor Tile.
 8. F1861-02 Resilient Wall Base.
 9. F1914-05 Short Term and Residual Indentation of Resilient Floor Covering.
 10. F1869-98 Measuring Moisture Vapor Emission Rate of Concrete Using Anhydrous Calcium Chloride, Method F.

1.3 PERFORMANCE REQUIREMENTS

- A. Slip Resistant. Following ADA requirements, resilient tile shall have these minimum static coefficients of friction (SCoF) values following ASTM D2047 (James machine, using dry leather) for the three types of spaces within the facility:
1. Ramps or floors with a slope of 1 in 20 or steeper (ADA: "inclined floors", "such as ramps"): SCoF = 0.80 or greater.
 2. Spaces that are means of egress (ADA: "accessible routes", "such as interior corridors") but not ramped: SCoF = 0.60 or greater

3. Spaces that are neither ramps nor means of egress (ADA: “leveled floors”, “such as cafeterias”): SCoF = 0.50 or greater.
- B. Abrasion Resistant. The weight loss of each tile shall average no more than 0.60 g when 10 tiles are abraded with aluminum oxide grit and a S-39 leather wheel for 2000 cycles following ASTM F510.
- C. Through-Pattern. The colors and pattern appearing on the tile surface shall extend through the entire thickness of the tile in a reasonably uniform manner, as tested by abrading to

1.4 SUBMITTALS

.Follow 01330

- A. Early Submittal: Submit text of Special Warranties for review and approval of A/E and Board. Obtain approval of text before making the following submittals.
- B. Product Data. Describe properties of each tile and base, including specified tests, including SCoF and resistance to abrasion tests performed by MDCPS Testing Lab, that have been passed. Describe tile and base adhesives, and transition strips.
- C. Samples. Each tile type in each color selected by A/E.
- D. Maintenance Manuals and Signed Warranties (at closeout); 2 copies: State routine care procedures and instructions for removing stains and scratches.
- E. Provide extra stock in manufacturer un-opened boxes of each tile and base that match the products installed for future repairs by the school staff. Provide a minimum of 1% or one full un-opened box, whichever is greater of all products (type, color, and pattern). Submit a copy of the transmittal signed by the school staff receiving the products to the A/E as part of the closeout submittal.

1.5 SPECIAL WARRANTIES

Follow 01910

- A. By Producer: In addition to the warranty and the correction of work requirements of the General Conditions, provide a written and signed Special Warranty from the resilient flooring producer (or Subcontractor), endorsed by Contractor, to correct defects in resilient tile and base work as follows:
 1. Correct until date of Substantial Completion of the Work and for 2 years after.
 2. Agreeing to correct by replacing with new material flooring having manufacturing defects such as tile or base that changes color, chalks, shrinks, crumbles, or exhibits brittleness or excessive indentation.
 3. Excluding: Damage from abuse or lack of proper maintenance.
- B. By Installer: In addition to the warranty and correction of work requirements of the General Conditions, provide a written and signed Special Warranty from the resilient flooring and base installer (or Subcontractor), endorsed by Contractor, to correct defects in resilient tile and base work as follows:
 1. Correct until date of Substantial Completion of the Work and for 2 years after.
 2. Agreeing to correct by replacing, using new material, work showing defects such as loss of adhesion of flooring to concrete, or of base to floor and wall surfaces; adhesive squeeze-up; or any opening-up of the initial tight fit of flooring joints.

3. Excluding Loss of sheen at wear surfaces; manufacturing defects in flooring; cracks imparted by substrate movement; loss of adhesion from excessive substrate moisture.

PART 2 PRODUCTS

Follow 01600

SPECIFIER: Do not use the term Vinyl Composition Tile or VCT. The industry is moving away from the use of vinyl here. CSI MasterFormat uses Resilient Tile or Resilient Tile Flooring (RT or RTF).

2.1 RESILIENT TILE (RT)

[09652.rt]

- A. Description. Vinyl or other suitable polymeric resins, with fillers and pigments, formed into homogeneous tile in a marbled or speckled pattern.
 1. Size: 12 x 12 in. x 1/8 in.
 2. Indentation Limit: 0.0006 – 0.0015 in. at 77° for 1 minute; ASTM F1914.
 3. Radiant panel fire test: Critical radiant flux of at least 0.45 W/cm²; ASTM E648.
 4. Smoke density test: Optical density <450 in flaming mode; ASTM E662.
 5. Dimensional stability: Either of the following:
 - a. <0.1% change; DIN 54318 (Aachen method).
 - b. <0.2% change; ASTM F2199.
- B. Standard: ASTM F1066, Class 2 Through Pattern tile.
- C. Product / Producer, SCoF = 0.80 or greater, for use on ramps or floors with a slope of 1 in 20 or steeper. May also be used for means of egress and in other spaces
 1. Assurance II, by Mannington
 2. Equal product in quality and performance as tested for SCoF, abrasive wear and through-pattern by MDCPS, reviewed by A/E and approved by A/E and Board.
- D. Product / Producer, SCoF = 0.60 or greater, for use in spaces that are means of egress. May also be used in other spaces.
 1. Excelon Imperial 51858, 51904, 51908, 51911, by Armstrong.
 2. Resilient MST and STU; by Marley.
 3. Equal product in quality and performance as tested for SCoF, abrasive wear and through-pattern by MDCPS, reviewed by A/E and approved by A/E and Board.
- E. Product / Producer, SCoF = 0.50 or greater, for use in other spaces that are not ramps of means of egress.
 1. Color Plus AVP-50, by American Biltrite / Amtico.
 2. Excelon Imperial 51919, 51928, 51908, 51938, by Armstrong.
 3. Essential; by Mannington.
 4. Resilient BE, by Marley.
 5. Flint Stone Granada SG-20, by Tarkett / Azrock.
 6. Equal product in quality and performance as tested for SCoF, abrasive wear and through-pattern by MDCPS, reviewed by A/E and approved by A/E and Board.

2.2 RESILIENT BASE

[09652.rb]

- A. Description. Rubber (not vinyl),. Provide in long rolls and cut as needed.

1. Height: 4 in. unless 6 in. is shown on the Drawings.
2. Profile: Cove bottom, unless a plain bottom is specifically shown on Drawings.
3. Outside and inside corners: Permanently form corners with no joint within 4 in. of corner. Do not use premolded corner pieces.
4. Color: As selected for each resilient tile color by A/E from the base producer's full palette of colors.
5. Base adhesive: Waterproof, non-toxic, low-VOC, light colored, formulated for maximum adhesion of rubber base.

B. Standard: ASTM F1861, Type TS, Group 1, Style B except where Style A is noted.

C. Product / Producer. Burke Mercer, Flexco, Johnsonite, R.C.A., or Roppe.

2.3 ACCESSORIES

A. Leveling Compound: Polymer-fortified cementitious compound with pH <9.0.

B. Tile Adhesive: Waterproof, antimicrobial, non-toxic, low-VOC, as recommended by tile producer.

C. Rubber Transition and Edge Strips: Not vinyl, gently tapered profile, at least 2 in. wide, matching tile thickness, as produced by Roppe.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify that field conditions are acceptable and
1. That concrete has been repaired to show no low spots and that it is ready to receive resilient tile work.
 2. That concrete floors are dry to maximum moisture content as recommended by tile producer, and that they exhibit no carbonization or dusting.
- B. Clean substrate. Fill minor low spots and other defects with leveling compound.

3.2 INSTALLATION

- A. Install resilient tile and base following producer's current published recommendations and instructions, except as more stringently specified herein.
- B. Installing resilient tile.
1. Install tile flooring with joints and seams parallel to building lines. Lay out so that there is no less than a half tile width at sides of room. Scribe flooring to produce tight joints at items penetrating flooring.
 2. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.
 3. Install edge strips where flooring terminates and at unprotected or exposed edges. Secure resilient strips with adhesive.
 4. Press tile flooring to attain full adhesion.
- C. Installing resilient base.

1. Adhere base tight to wall and floor surfaces.
 2. Fit joints tightly and make vertical. Miter internal corners. At external corners, V-cut back of base strip to 2/3 of its thickness and fold.
- D. Cleaning and Protection. Remove excess adhesive from surfaces of tile and base without damage. Cover floor to protect from damage. ///