

SECTION 09660

RESILIENT TILE FLOORING

PART 1 GENERAL

1.01 SUMMARY

A. Related Sections:

1. 03300 - Cast-In-Place Concrete.
2. 09665 - Sheet Vinyl Floor System.
3. 08710 - Finish Hardware.
4. 15421 - Drains and Cleanouts.
5. 16132 - Floor Boxes.

1.02 REFERENCES

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

1. E84-96a Test Method for Surface Burning Characteristics of Building Materials.
2. E648-97 Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
3. E662-95 Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
4. F710-92 Standard Practice for Preparing Concrete Floors and Other Monolithic Floors to Receive Resilient Flooring.
5. F1066-95a Standard Specification for Vinyl Composition Floor Tile, except Section 5 - Materials and Manufacture.

1.03 SUBMITTALS

- A. Submit properly identified product data, including installation instructions before starting work.
- B. Samples: Submit manufacturer's standard size samples of each type, color, and finish of resilient flooring and required accessories including full range of flooring color and pattern variations available from proposed manufacturer.
- C. Manufacture's Safety Data Sheet (MSDS) for adhesive.

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**M-DCPS MASTER
SPECIFICATION GUIDELINES**

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- D. Quality Control Submittals: Provide manufacturer's printed document indicating compliance to slip-resistant coefficient requirements.
- E. Maintenance Instructions: Submit manufacturer's written instructions for recommended maintenance practices for installed resilient flooring to include:
 - 1. Schedule: Frequency and type of maintenance defined.
 - 2. Equipment: Equipment and tools specified by generic language or manufacturer's name.
 - 3. Materials: Chemicals required to maintain flooring by brand name, quantities, and proper solutions.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements:

- 1. Resilient flooring systems shall comply with the minimum slip-resistant coefficients of:
 - a. 0.5 - For leveled floors such as, but not limited to, cafeterias.
 - b. 0.6 - For accessible routes such as, but not limited to, interior corridors.
 - c. 0.8 - For inclined floors such as, but not limited to, ramps.
- 2. Non-compliance of slip-resistant coefficient factor will be grounds for removal and disposal of installed flooring system, properly preparing the floor substrate and installation of required slip-resistant flooring system at no expense to the Board.

B. Taber Abrasionmeter Testing:

- 1. The weight loss of each tile shall average no more than 0.60 grams when ten tiles are abraded with aluminum oxide grit and a S-39 leather wheel for 2000 cycles according to ASTM F510-81.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's unopened original dry packaging, with tags and labels intact.
- B. Provide equipment and personnel to handle materials to

prevent damage from dropping, careless storage, and handling.

- C. Store material in weather protected space with temperature between 65 and 90 degrees F.

1.06 SITE CONDITIONS

- A. Maintain room and material temperature between 65 degrees F. and 90 degrees F. for at least 48 hours before, during, and 48 hours after installation. Maintain a minimum 65 degrees F. thereafter. Painting shall be completed, air-conditioning operational, and exterior thresholds installed.

1.07 WARRANTY

- A. Furnish manufacturer's standard warranty covering manufacturing defects for a period of 2 years.
- B. Installer shall warrant in writing to correct conditions due to faulty installation or replace defective materials after project completion, including any loss of adhesion to the substrate to the satisfaction of the Board.

PART 2 PRODUCTS

NOTE TO SPECIFIER: Verify the color selection/patterns of the following manufacturers to match M-DCPS accepted color board and edit to suit requirements.

2.01 MATERIALS

- A. Vinyl Composition Tile (VCT):
 - 1. Manufacturers:
 - a. Standard Excelon by Armstrong, Lancaster, PA.
 - b. Flex-thru by Flextile, Toronto, Ontario.
 - c. Essentials by Mannington, Salem, NJ.
 - d. Expressions by Tarkett, Parsippany, NJ.
 - 2. 12 inches x 12 inches x 1/8", marbleized pattern, composed of resin binder, fillers, and pigments.

- a. The marbled pattern on the surface of the tile shall be dispersed uniformly throughout the thickness of the tile to the back of the tile without significant change.

NOTE TO SPECIFIER: In the following paragraphs, insert color selection/patterns of tiles and bases of manufacturers as on the M-DCPS accepted colorboard and indicate either in the Drawings or this specification the location of each type.

3. Color and Pattern:

- a. As shown on the drawings, colors/patterns shall be _____ by _____, or accepted equivalent, as selected by A/E from the manufacturer's standard color selection for the specified product.
- b. Colors and patterns shall be judged accepted equivalent, as determined by the A/E, to those preselected or above specified patterns and colors by the manufacturers as specified.

4. Tile shall comply with:

- a. American Society for Testing and Materials (ASTM):
 - 1) E648 Critical Radiant Flux (CRF) of not less than 0.45 watts per square centimeter.
 - 2) E662 Smoke density not more than 450.

B. Resilient Accessories:

1. At Walls:

- a. 1/8" thick, 4 or 6 inches high rubber with cove profile.
- b. As shown on the drawings, colors shall be _____ by _____ or accepted equivalent.
- c. Colors shall be judged equivalent, as determined by the A/E, to those preselected or above specified colors.
- d. At all corners, provide inside/outside corners as applicable to the specific corner. Extend 4 inches minimum beyond corner.
- e. Premolded corners are not allowed.

2. At Stair Treads: VCT. As shown on the drawings, colors shall be _____ by _____ or accepted equivalent.
3. Stair Nosings: See Section 05500 Metal fabrications.
4. Colors and patterns shall be judged equal equivalent, as determined by the A/E, to those preselected or above specified colors and patterns.
5. Manufacturers:
 - a. Armstrong.
 - b. Flexco.
 - c. Johnsonite.
 - d. Burke Mercer.
 - e. R.C.A. Rubber.
 - f. Roppe.

C. Accessories:

1. Metal transition (edge) thresholds, Pemko #173A, Pemko #174C, or accepted equivalent.
2. Tile Adhesive: Non-toxic, waterproof, stabilized type as recommended by resilient tile flooring manufacturer, complying with EPA requirements.

NOTE TO SPECIFIER: Interlocking rubber flooring is laid loose over sealed concrete floor slabs, at high school locations according to program requirements, to allow removal and cleaning.

D. Interlocking Rubber Flooring:

1. 24 inch x 24 inch x 9/16" cut resistant rubber, with border and corner tiles.
2. Colors as accepted by A/E.
3. Hid-N-Lock by Pawling Corp. or accepted equivalent.

PART 3 EXECUTION

3.01 INSPECTION

- A. Do not proceed with the work of this section until conditions detrimental to the proper and timely completion off the work have been corrected in an acceptable manner.

3.02 PREPARATION

- A. Comply with ASTM F710, manufacturer's recommendations, and as specified for surface preparation.
- B. Concrete shall be smooth and level, with maximum surface variations not exceeding 1/8" in a 10 foot radius. Grind down ridges and other irregularities.
- C. Fill cracks, holes, and depressions with cementitious based or white premixed latex underlayment as recommended by the flooring manufacturer. Latex and powder shall be from the same manufacturer and as recommended by the manufacturer.
- D. Seal concrete slabs to receive interlocking rubber flooring.
- E. Remove paint, oils, bond breakers, waxes, and sealers from surface. Inorganic solvents are not to be used.
- F. Moisture Tests:
 - 1. Determine whether the concrete slab is adequately dry for resilient flooring installation.
 - 2. Test concrete slabs in new construction or existing slabs on grade for manufacturer's allowable moisture content by one of the following:
 - a. The protimeter electrical conductivity survey master moisture test instrument.
 - b. Calcium chloride test.

3.03 INSTALLATION

- A. Lay resilient flooring with adhesive cement according to manufacturer's recommendations with (linear)(basketweave) tile layout.
- B. Lay interlocking rubber flooring over sealed concrete floor without adhesives.
- C. Layout:
 - 1. Butt tightly to vertical surfaces, thresholds, nosings, and edges.
 - 2. Scribe, as necessary, around obstructions to produce neat joints, laid tight, even, and straight.
 - 3. Extend flooring into toe spaces, door reveals, into closets, and similar openings.

4. Install border tiles next to walls of not less than one half tile and of approximately equal size around the perimeter of the room.
- D. Fill surface imperfections such as cracks, depressions, or rough areas with underlayment.
1. Provide ventilation in areas where adhesive is being used. When natural ventilation is inadequate, use safety-spark-proof fans and prohibit smoking.
- E. Transition (Edge) Strips:
1. Install metal transition (edge) thresholds with concrete screws at 6 inches o.c. wherever exposed edges of resilient flooring materials occur, Pemko #173A, Pemko #174C, or accepted equivalent.
 2. Where resilient flooring stops at doorways, set transition thresholds directly under the door in its closed position.

3.04 CLEANING AND PROTECTION

- A. Remove excess adhesive and other soilings from floors and adjacent surfaces, using neutral type cleaners as recommended by resilient flooring manufacturer.
1. Do not use acids or other caustic solutions as cleaning agents.
- B. Clean and apply 3 coats of M-DCPS approved liquid wax floor finish to VCT according to wax manufacturer's printed instructions.
- C. Before allowing traffic, protect installed flooring from damage by covering with clean, heavy duty building paper from time of cleaning until all work in the area is complete.

END OF SECTION