

SECTION 09 66 16
TERRAZZO FLOOR TILE

PART 1 - GENERAL

1.1 DESCRIPTION

Terrazzo tile for installation over concrete floors.

1.2 RELATED WORK

- A. Resilient Base: Section 09 65 13, RESILIENT BASE AND ACCESSORIES.
- B. Concrete floors: Section 03 30 00, CAST-IN-PLACE CONCRETE.
- C. Color and Pattern: Section 09 06 00, SCHEDULE FOR FINISHES.
- D. Sustainability and LEED requirements. Section 01 81 11, SUSTAINABLE DESIGN REQUIREMENTS.

1.3 MANUFACTURER'S QUALIFICATIONS

- A. Approval by Contracting Officer is required of products or service, or proposed manufacturer, suppliers and installers, and will be based upon submission by Contractor of certification that:
 - 1. Manufacturer regularly and presently manufactures terrazzo tile as one of his principal products.
 - 2. Installer has technical qualifications, experience, trained personnel and facilities to install specified items. Approval will not be given, however, where experience record is one of unsatisfactory performance.
 - 3. Manufacturer's product submitted has been in satisfactory and efficient operation on three installations similar or equivalent to this project for three years. Submit list of installations. List shall include name of project, and owner and location of project.

1.4 SUBMITTALS

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, furnish the following:
- B. Flooring Manufacturer's Literature and Data: Printed installation instructions for conditions indicated.
- C. Certificates: Indicating materials conform to specified requirements. Indicating flooring manufacturer's approval of underlayment, adhesive and cleaners.
- D. Samples: Terrazzo Tile (each color and pattern to be used) adhesive vinyl cove base, each color, 150 mm (6 inch) length
- E. Provide Tile layout prior to performing work.
 - 1. Rooms must be field measured prior to submission.
 - 2. The room sizes must reflect the actual room sizes in the field.

3. Provide a starting point for the tile based on the field measurements.
4. Under no circumstances should tiles be less than 6" wide.

1.5 DELIVERY

Deliver materials to job in manufacturer's original unopened containers, free of damage, with manufacturer's brand name marked thereon.

1.6 STORAGE

Store materials in a protected area. Storage area shall be kept dry and temperature of storage area shall not be lower than 10 degrees C (50 degrees F) or higher than 32 degrees C (90 degrees F).

1.7 PROJECT CONDITIONS

Tiles shall not be installed until all other work that could cause damage to the finish flooring has been completed. Maintain a temperature of not less than 21 degrees C (70 degrees F) in spaces where tile is to be installed for at least 48 hours before, during and after the laying of tiles. Bring tile into such spaces and allow it to condition at not less than 21 degrees C (70 degrees F) at least 48 hours before installing. A minimum temperature of 13 degrees C (55 degrees F) shall be maintained thereafter.

1.8 WARRANTY

Terrazzo tile is subject to terms of "Warranty of Construction" FAR clause 52.246-21, except that warranty period is two years in lieu of one year.

1.9 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 basic designation only.
- B. American Society for Testing And Materials (ASTM):
 - C109-11.....Compressive Strength of Hydraulic Cement Mortars
 - D2047-04.....Static Coefficient of Friction of Polish Coated Floor Surfaces as Measured by the James Machine
 - E648-10e1.....Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source
- C. Military Specifications (Mil. Spec.):
 - MIL-D-3134J.....Deck Covering Materials

PART 2 - PRODUCTS

2.1 TERRAZZO TILE

Terrazzo tile shall consist of granite chips embedded in a flexible thermo-set resin matrix. Tiles shall be 5 mm (3/16-inch) thick, and

chips shall be manufacturer's standard gradation. Tile shall have the following properties.

TABLE II GRANITE TERRAZZO TILE		
Compressive strength Water absorption Hardness at 25 degrees C	ASTM C109 Mil. Spec. MIL-D-3134 Barcol Hardness	35.8 MPa (5,200 psi) 0.4 percent maximum Resin 70, 55-85
Coefficient of Friction Flame Resistance minimum//	ASTM D2047 ASTM E648	0.70 0.45 watt/cm square

2.2 ADHESIVE

Shall be terrazzo tile manufacturer's standard product or a product recommended by the terrazzo tile manufacturer.

2.3 WALL BASE

See Section 09 65 13, RESILIENT BASE AND ACCESSORIES.

2.4 METAL EDGE STRIPS

Extruded aluminum, butt-type, approximately 38 mm (1-1/2 inches) wide with thickness to set top surface flush with top of tile and with bevel at exposed edge. Edge strips shall have countersunk holes, near each end and spaced at no more than 300 mm (8 inches) on center for securement.

2.5 PRECAST STAIR TREAD SURFACES AND EDGES

- A. All exposed edges to be ground and polished with a minimum of 1/16" bevel.
- B. All finished surfaces to be ground and polished, free of holes (except for pin connection) and to have overall uniformity in matrix and aggregate.
- C. All precast epoxy terrazzo finished surfaces to be sealed with a sealer approved by manufacturer.

PART 3 - EXECUTION

3.1 GENERAL

Provide flooring and base on floor surfaces and walls where shown on the drawings. Provide resilient base as scheduled for room or space, for freestanding columns, pilasters, furred spaces convectors and where shown. Resilient base required over metal base of casework is specified in other sections. Except as necessary to install new tile, keep all traffic off new tile for at least 24 hours after installation.

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3.2 SUBSTRATE PREPARATION

- A. Concrete Floors (New Construction): Fill holes and cracks with approved mortar. Concrete floors shall be free of curing compounds, grease, dirt, loose particles and other foreign matter that would prevent adhesion. Remove projecting irregularities by chipping or grinding smooth. Fill depressions and level uneven surfaces with underlayment. Then rinse subfloors and allow them to dry thoroughly before applying adhesive.
- B. Concrete Floors (Existing Construction): Remove any existing flooring and condition subfloors to provide smooth, clean, continuous surface. Use underlayment where required to provide level surfaces ready to receive tile. Fill holes and cracks in concrete subfloors with mortar. Remove grease, dirt, loose particles, and other foreign matter that would prevent adhesion. Then, rinse subfloors and allow to dry thoroughly before applying adhesive.

3.3 MOISTURE TEST

After concrete floor surfaces have been cleaned, spread small patches of adhesive to be used, in several locations in each room and allow to dry overnight. If the adhesive can be peeled easily from the floor surfaces, the floor is not sufficiently dry. The test shall be repeated until the adhesive adheres properly. Lay tile flooring when the adhesive adheres tightly to the subfloor.

3.4 INSTALLATION

- A. Install tile in accordance with the tile manufacturer's approved installation instructions, except as specified herein. Lay design symmetrical about center lines of rooms. Joints shall be tight, and inconspicuous as possible, and in true alignment. Cut tile to fit snugly at pipes and other fixed vertical surfaces. Seal joints at pipes with adhesive. Remove spots or smears of adhesive immediately. Make entire surfaces of finished tile floors smooth, straight, and free from bleeding adhesive, buckles, waves or projecting tile edges upon completion. Remove any surface film on back of base due to mold release agents as recommended by base manufacturer, before applying base adhesive.
 - 1. Where metal edge strip transition strip is required, install as detailed.
 - 2. Bleeding of adhesive on finished floors is considered cause for rejection. Replace damaged tiles.

- B. Metal Edge Strips: Secure strips with No. 10 aluminum alloy, counter sunk flathead machine screws with expansion sleeves. Provide metal edge strips, in one piece, at any exposed edges of tile.
- C. Transition Strips: Apply transition strips with adhesive continuous, between ceramic tile finish floors and resilient tile finish floors as shown.
- D. Premolded Base: Install as specified in Section 09 65 13, RESILIENT BASE AND ACCESSORIES.

3.5 CLEANING

Upon completion of the installation, and after adhesive has cured, clean flooring in accordance with manufacturer's recommendations.

3.6 PROTECTION

From the time of laying until acceptance, protect the flooring from damage. Replace damaged, loose, broken, or curled tiles.

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