

**PART 1 GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

**1.2 SUMMARY**

- A. This work would be done under the guidelines of Art In Public Places who has commissioned the artist to create and supervise the application.
- B. Cast-in-place, thin-set, terrazzo topping at designated areas.
- C. Provide precast stair treads.

**1.3 RELATED WORK TO BE PROVIDED THROUGH GENERAL CONTRACTOR**

- A. Concrete sub slab to be poured in a smooth level trowel finish, with tolerances of no more than 1/8" in 10 feet, free of any surface chemical curing agents, with high quality moisture barrier under all slab on grade applications, and allowed to cure for minimum of 28 days prior to application of terrazzo finishes.
- B. All backing for any applicable specified terrazzo base, or stair treads, if specified, framing to be either cement board, concrete/concrete block or cement plaster.
- C. Electrical power, single phase and 3 phase 100 amp for 60 amp twist plug 220 volt, within 100 feet of work area, and an electrician to hook up pigtail furnished by terrazzo subcontractor.
- D. Saw cutting of the concrete sub-slab for control joints to be provided by concrete contractor in true straight lines as shown on drawings, saw cut to one third of slab thickness, and cut within 24 hours of concrete pour.
- E. Flooring protection subject to the approval of the artist and the terrazzo contractor.
  - 1. Refrain from installing any adjacent floor finishes, or any wall finishes (including drywall), until floor terrazzo is completely ground, polished and sealed.
  - 2. The prime contractor shall insure that adequate lighting is provided to maintain a level of 50-60 foot candles in areas where terrazzo is being installed and finished.
  - 3. The prime contractor shall remove protection board, and provide for janitorial services to re-clean floor, re-seal if necessary, and apply minimum of two coats of dressing, buffing after each coat, immediately prior to turning building over to client, as per the maintenance manual specification binder supplies by the terrazzo contractor.
  - 4. Provide empty dumpsters for terrazzo grinding slop. Dumpster to be lined with visqueen by terrazzo contractor.
    - A. Prime contractor to provide for an interior dry storage for aggregates, resins and other materials and equipment on site at no cost to the terrazzo contractor.
    - B. Sufficient water, heat to maintain area above 50 degrees F.

- C. Provide drains and all other pre-inserted utilities into substrate allowing for thickness of terrazzo flooring to allow flush finish after terrazzo installation.

#### **1.4 RELATED SECTIONS:**

**Division 3 Section 03300** "Cast-In-Place Concrete"

**Division 5 Section 05810** "Expansion Joint Cover Assemblies"

**Division 7 Section 07920** "Joint Sealers"

**Division 14 Section 14210** "Electric Traction Elevators"

**Division 14 Section 14240** "Hydraulic Elevators"

#### **1.5 SUBMITTALS**

A. Samples:

1. Submit minimum 12 inch by 12 inch samples for each color of terrazzo for review and selection. Terrazzo Contractor is advised that at least three samples of each color may be required until final color/texture is selected. Accordingly, submit samples so as not to jeopardize completion date of project.
2. Submit one 6 inch minimum length of each divider strip type, regardless of type specified

B. Maintenance literature: Submit three copies of maintenance recommendations by NTMA and maintenance product members of NTMA.

C. Certification: Furnish certification that materials meet specification requirements.

#### **1.6 QUALITY ASSURANCE**

A. Manufacturers Qualification: Obtain primary Epoxy Terrazzo Flooring System materials including membranes, primers, resins and hardening agents from a single manufacturer with documented experience providing resinous ground terrazzo flooring, and proof of N.T.M.A. membership. Provide aggregates, solvents and other secondary materials from source recommended by manufacturer of primary materials.

B. Terrazzo Contractor Qualifications: Use resin manufacturer certified Terrazzo Contractor with at least five (5) years of satisfactory experience in installation of resinous epoxy terrazzo with proof of N.T.M.A. membership. Terrazzo Contractor shall demonstrate experience during last five years of at least three projects of comparable scope and complexity of at least 50% of total square footage of this project.

C. Construct a minimum 100 sq. ft. mock-up sample at project location of typical terrazzo flooring and base condition where designated by Design Professional for approval. Once approved, sample shall remain part of finished work and be quality reference standard for balance of project.

- D. Terrazzo Contractor experience: Furnish list of at least (3) three epoxy terrazzo projects using material specified for this project or similar that contractor has installed during the past 5 years of the same scope, complexity and at least 50% of the square footage, including the following:
1. Project name.
  2. Square footage of terrazzo installed.
  3. Lineal footage of precast base and cast in place.
  4. Address of facility with contact name and phone number.
  5. Contact name, address and phone number of prime contractor or construction manager.
  6. Field experience resumes of key project personnel including supervisors and technicians.

## **PART 2 - PRODUCTS**

### **2.1 ACCEPTABLE MANUFACTURERS**

- A. Provide products by the following listed manufacturers:
1. Terroxy
  2. Master Terrazzo Technologies
  3. General Polymers
  4. Key Resin

### **2.2 MATERIALS**

- A. Aggregates: Marble aggregates are to be of NTMA standard sizing #0 and #1 (unless otherwise indicated in color formulations below), provided in pre-packaged dry bags, stored in a dry area at construction site and/or adequately protected from the weather. Sprinkling of premium aggregates to achieve percentage specified on surface of poured terrazzo will not be acceptable.
- B. Color formulations: Premium aggregates are to be poured into terrazzo mixer along with standard aggregate at the following listed percentages:
1. **Insert here the type of aggregate, size and Epoxy resin colors. T-1**
  2. **Insert here the type of aggregate, size and Epoxy resin colors. T-2**
- C. Divider Strips: At other material junction 1/8" zinc or aluminum.
- D. Marble dust: All marble dust must be extra fine to eliminate white dots appearing in terrazzo finish except in white epoxy. Coarse marble dust may be used in white epoxy only, unless otherwise specified, at contractor's option.
- E. Expansion strips: install 1/8" wide (white or black) neoprene pre-filled terrazzo expansion strips over all control, cold and/or expansion joints in concrete sub slab.
1. Membrane: Provide for 40 mils coating of crack suppression membrane and fiberglass scrim applied on all cracks up to 2% of the total square footage. Example 20,000 sq. ft. = 400 l/f crack preparation

## **PART 3 - EXECUTION**

### **3.1 INSPECTION**

- A. Examine areas to receive terrazzo for:
  - 1. Defects in existing work that affect proper execution of terrazzo work.
  - 2. Deviations beyond allowable tolerances for the concrete slab work. (1/8" in 10' required for this terrazzo application.)
  - 3. Age (minimum 30 days) and moisture content of concrete slab.
- B. Start work only when all defects are corrected. If moisture vapor transmission rate exceeds 3 (three) pounds per 1000 sf per 24 hours, notify manufacturer for special drying procedures and moisture mitigation methods if required.

### **3.2 SURFACE PREPARATION**

- A. Prepare concrete substrate to "open" surface pores by means of vacuum blasting. Remove all contaminating or bond breaking substances including but not limited to dust, laitance, curing compounds, coatings, sealers, oil and grease. Any oil or grease not removed by vacuum blasting must be chemically removed. All spalled or deteriorated concrete should be mechanically removed by scabbling or chipping hammers. Acid etching is not acceptable. Repair damaged concrete with epoxy terrazzo resin manufacturer. Latex fills or self leveling underlayments are not acceptable.

### **3.3 INSTALLATION**

- A. Sub Floor
  - 1. Install stop and divider strips.
  - 2. Install Control Strips precisely above control joints.
- B. Epoxy Primer: Apply epoxy primer evenly over prepared substrate, cracks non-expansion joints at the rate of 200 - 300 square feet per gallon for normal concrete, to thoroughly wet surface, but avoiding "ponding" the material. (highly porous concrete may require additional material.)
- C. Placing Terrazzo:
  - 1. Mix terrazzo binder with chips and fillers in ratios as approved by manufacturer and the N.T.M.A.
  - 2. Trowel apply terrazzo mixture over epoxy primer to provide smooth seamless surface at a minimum of 3/8" thick. Allow cure per manufacture's recommendations prior to grinding operations.
  - 3. Insert here any additional items to be inserted in the terrazzo floor , if any.

D. Finishing:

1. Rough Grinding:

- a. Grind with 24 or finer grit stones or with comparable diamond plates.
- b. Follow initial grinding with 80 or finer grit stones.

2. Grouting:

- a. Cleanse floor with clean water and rinse thoroughly.
- b. Remove excess rinse water by wet vacuum and machine until completely dry.
- c. Apply epoxy grout to fill voids.

3. Fine grinding :

- a. Grind with 120 or finer grit stones until all grout is removed from surface.
- b. Upon completion terrazzo shall show a minimum of 70% to 75% of marble chips.

D. Cleaning and Sealing :

1. Thoroughly wash all surfaces with a neutral cleaner after fine grinding.
2. Rinse with clean water and allow surface to dry thoroughly.
3. Apply sealer in two coats at the coverage rate of 500 square feet per gallon per coat.

H. If there are any loose or hollow areas removal of entire panel from metal strip to metal strip will be required. No patching will be allowed.

**4.1 PROTECTION**

A. Upon Completion the work shall be ready for final inspection and acceptance by the owner or his agent. The general contractor or construction manager shall protect the finished floor from the time that the terrazzo contractor completes the work and request final inspection.

**4.2 WARRANTY**

A. Terrazzo contractor jointly with manufacturer shall furnish standard guarantee of Epoxy Terrazzo Flooring System for one year after installation. This labor and material guarantee includes loss of bond and damage due to normal wear and tear.

B. Not included are damage due to bubbling or loss of adhesion due to moisture penetration through the substrate, Acts of God or other elements beyond scope of protection of this system. Also excluded are reflective cracks from substrate.

C. In case of warranty claim, owner will notify manufacturer and terrazzo contractor in writing within 30 days of first appearance of any problems which are not covered under this warranty, and will provide free access to area during normal working hours. Property protection is also owner's responsibility. Remedy is limited to direct repair of Epoxy Terrazzo Flooring System.

**EPOXY TERRAZZO FLOORING**

**09402-5**

**END OF SECTION**