

CENTRAL STATES TERRAZZO ASSOCIATION
(THIN-SET) EPOXY RESIN TERRAZZO

PART 1 – GENERAL

1.01 SUMMARY

- A. 3/8" Nominal Epoxy Resin Matrix Terrazzo**
- B. Work included in this Section**
 - 1. 3/8" Epoxy Resin Terrazzo poured in place with joint, edge, and termination divider strips as indicated on drawings.
 - 2. Crack suppression membrane with reinforcing mesh.
 - 3. Moisture Vapor Transmission Barrier Placed on Concrete Slab
- C. Related work in other Sections**
 - 1. Cast In Place Concrete: Subfloor to be level with maximum variation of ¼" in 10 feet, with a steel trowel finish surface. A sheet good moisture barrier as designated by ASTM E-1745 Class A should be in contact with bottom side of concrete slabs on grade.
 - 2. Adjacent floor finishes- see Division 9.
 - 3. Furnish and placement of floor drains, plumbing fixtures, electrical fixtures.
 - 4. Joint sealants installed with terrazzo at expansion joints.
 - 5. Sufficient water, temporary heat and light, and adequate electric power connected with outlets within 100 feet of work area.

1.02 QUALITY ASSURANCE

- A. Acceptable suppliers**
 - 1. Suppliers shall be Associate members of the Central States Terrazzo Association (CSTA) and National Terrazzo & Mosaic Association (NTMA) and shall supply materials in accordance with the standards and specification of the CSTA and NTMA.
 - 2. Marble chips and/or glass aggregates shall be standard colors and gradated sizes as supplied by CSTA Associate supplier members.
- B. Acceptable installers**

Terrazzo installation contractor shall be current Contractor members of the NTMA and CSTA, and shall perform all work in accordance with NTMA and CSTA specifications and standards. (See <http://centralstateterrazzo.com> for Contractor Member information).

1.03 SUBMITTALS

- A. Product Data**

Submit product data for all related materials including resin matrix, crack suppression membrane, divider strips, expansion strips, sealers and cleaners.
- B. Samples**
 - 1. Submit (2) 6" square samples for each color and type of terrazzo specified or selected.
 - 2. Submit (2) 6" lengths of each divider of expansion strip required.

- C. Certification**

Submit certification letter from CSTA that terrazzo installation contractor is current member in good standing with the CSTA and NTMA.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Delivery of materials**

Deliver materials in a manner to prevent damage or contamination to containers or bags of materials.
- B. Storage of materials**

Store materials in a clean, dry location, heated to minimum 50 degrees, furnished by others.

1.05 GUARANTEE/WARRANTY

Terrazzo materials and installation shall be guaranteed for a period of (1) year from date of substantial completion. Guarantee shall be limited to the repair and/or replacement of materials or workmanship found to be defective per NTMA and CSTA standards and specifications.

1.06 PROJECT CONDITIONS

- A. Acceptable Substrates**
 - 1. Concrete sub-floor level tolerance shall be ¼" in 10 feet. Steel troweled to a "fizzy finish" (Do not over trowel creating a hard done dark surface). Any irregularity of the surface, which requires repair shall be performed with epoxy fillers and aggregates recommended by epoxy resin matrix manufacturer.
 - 2. Maintain ambient room and floor temperature at 50 degrees F or above for a period extending 72 hours before, during, and after terrazzo floor installation.
 - 3. Concrete substrate shall be tested to verify acceptable moisture levels prior to installation. Testing should be conducted in accordance with ASTM F2170 or by calcium chloride test. Acceptable moisture levels shall be as established by the NTMA for use with resin matrix terrazzo.
 - 4. Curing by ASTM C-171 sheet materials for curing concrete.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Primer:** Resin manufacturer's 100% solids epoxy primer
- B. Flexible Membrane:** Resin manufacturer's 100% Solids Epoxy Crack Suppression Membrane
- C. Epoxy Resin:** Epoxy Matrix, 100% solids, -0- VOC Epoxy Resin. Acceptable manufacturers are General Polymers, Crossfield Products, T&M Terroxy Resin Systems, Key Resin.
- D. Marble Chips:** Standard color marble or glass chips as distributed by CSTA Associate member suppliers. Maximum size #2 per NTMA gradation standards

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- E. Divider Strips: Zinc, Brass, or Aluminum, 1/8" in thickness unless noted otherwise on drawings, as supplied by Associate member suppliers.
- F. Terrazzo Cleaner: PH Factor between 7 and 10, biodegradable and phosphate free as recommended by resin system manufacturer
- G. Sealer: Penetrating Sealer as recommended by resin system manufacturer.
- H. Moisture Transmission Barrier shall be as supplied or recommended by epoxy resin manufacturer at an added cost

2.02 MIXES

A. Terrazzo Selection:

- 1. Terrazzo type shall be 3/8" Epoxy Resin Matrix Thin-Set Terrazzo
- 2. Terrazzo color mixes shall be NTMA color plate or custom matrix as produced by CSTA Contractor member. Sample(s) Matrix designation #'s_____.

B. Proportions

In accordance with resin system manufacturer's recommendations

C. Mixing:

Terrazzo Topping: Mix marble/aggregates and Epoxy Resin per formulations of approved samples.

PART 3 – EXECUTION

3.01 INSPECTION

Examine areas to receive terrazzo for:

- 1. Defects in existing work that affect proper execution of terrazzo work. Notify contractor of any defects in concrete sub-floor or other related work for correction.
- 2. Concrete shall be a minimum 3,000 psi compressive strength and minimum 300 psi tensile strength, with 30-day cure, and shall be level to within 1/4" per 10 lineal feet. Concrete slab shall have effective moisture barrier. Moisture tests should be conducted to confirm suitability for installation of epoxy resin terrazzo flooring system by owners testing agency.
- 3. Conduct moisture tests for concrete slabs on grade in accordance with ASTM F2170 or calcium chloride test. [calcium chloride test only to be used if space has been conditioned to owner's intended parameters]. Report results for certification that moisture level are acceptable for installation of terrazzo system. Reading of less than 90% rh are acceptable for use of moisture Vapor Transmission Barrier.
- 4. Inspect slab for visible cracks, if total length of cracks is more than 10% of the sq.ft. of the total terrazzo, terrazzo contractors shall be paid extra for crack treatment.
- 5. Start only when all defects have been corrected by others and moisture test results have been certified as acceptable if installation is slab on grade or over light weight concrete.

3.02 INSTALLATION

A. Subfloor:

- 1. Prepare substrate to receive epoxy terrazzo by shot blasting to expose clean concrete substrate.
- 2. If required due to moisture vapor transmission rate test results exceeding NTMA recommended levels, install moisture vapor transmission barrier to concrete slab per manufacturer's recommendations. This is an added cost that shall be priced as a separate amount.
- 3. Where required, install membrane as required at cold joints and crack isolation membrane over concrete substrate per manufacturer's recommendations.
- 4. Install divider strips as indicated on approved layout. Place any expansion joint strips where required. See Joint Detailing suggested by NTMA at NTMA or CSTA website.

B. Placing Terrazzo

- 1. Prime subfloor in accordance with manufacturer's recommendations.
- 2. Place terrazzo mixture in panels formed by divider strips and trowel mixture to top of strips.

C. Curing

After completing placement of terrazzo allow to cure until topping develops sufficient strength to prevent lifting or pulling of terrazzo strips during grinding.

D. Finishing

- 1. Rough Grinding:
 - a. Grind with #24 or finer grit stones or with comparable diamond plates.
 - b. Follow initial grind with #120 or finer grit stones as required to meet finish of approved project control samples.
- 2. Grouting
 - c. Cleanse floor with clean water and rinse.
 - d. Remove excess rinse water and machine or hand-apply grout, taking care to fill voids.
 - e. Grout may be left on terrazzo until all heavy or messy work in project is complete.
- 3. Fine Grinding
 - a. Grind with #120 or finer stones until all grout is removed from surface.
 - b. Upon completion, terrazzo shall show a minimum of 70% marble chips.

E. Cleaning and Sealing

- 1. Wash all surfaces with a neutral cleaner.
- 2. Rinse with clean water and allow surface to dry.
- 3. Apply penetrating sealer in accordance with manufacturer's directions.

F. Protection

- 1. Upon completion, the work shall be ready for final inspection and acceptance by owner or agent.
- 2. The General Contractor shall protect the finished floor at the time that the Terrazzo Contractor completes the work.

END