

GUIDE SPECIFICATIONS FOR EPOXY TERRAZZO

(1/4" or 3/8" nominal thickness)

Section 09

PART 1 - GENERAL

1.01 Related work specified in other sections

Note: Delete non-applicable items.

- A. Furnishing and/or installation of metal lath and scratch coat. Section: _____
- B. Attachment of metal stairs, any welding and mesh reinforcing. Section: _____
- C. Furnishing and setting of floor drains. Section: _____
- D. Furnishing and setting surface hardware. Section: _____
- E. Setting of metal base beads and wood ground. Section: _____ *Note: Delete in cases where jurisdiction permits terrazzo contractor to install.*
- F. Backing for epoxy terrazzo base must be cement board or exterior grade plywood, concrete block, concrete or cement plaster.
- G. Concrete subfloor. Section: _____ *Note: Concrete subfloor to be level (maximum variation not to exceed 1/4" in 10') and to have a steel trowel finished surface. No curing agents or other additives which could prevent bonding should be used. The slab should have an efficient moisture barrier under the concrete slab when placed directly on grade. Saw cutting of control joints must be done between 12 — 24 hours after placement of the structural concrete.*
- H. Broom clean area to receive precast terrazzo of all loose chips, laitance and all foreign matter.
- I. Sufficient water, temporary heat & light and adequate electric power with suitable outlets connected & distributed for use within 100 feet of any working space. *Note: Ambient temperature shall be maintained as per manufacturers recommendation at a minimum of 50° Fahrenheit.*

1.02 Quality assurance

- A. Acceptable supplier:
 - 1. Materials furnished shall meet NTMA specifications.
- B. Installer qualifications:
 - 1. Installer shall be a contractor member of NTMA and shall perform all work in accordance with NTMA standards.
 - 2. If installer is not a contractor member of NTMA, they shall submit a list of completed projects of a similar magnitude and complexity.

1.03 Submittal

- A. Samples:
 - 1. Submit a maximum of 3 samples, minimum 6" X 6" for each color and type of terrazzo.
 - 2. Submit 2, 6" minimum lengths of each type and kind of divider strips.
- B. Maintenance literature::
 - 1. Submit 2 copies of maintenance recommendations of NTMA or maintenance product members of NTMA.
- C. Certification:
 - 1. Suppliers shall furnish certification attesting that materials meet specification requirements.
 - 2. Suppliers shall furnish properly labeled material and Material Safety Data Sheets which comply to current state and federal requirements.

1.04 Delivery, storage and handling

- A. Delivery of materials:
 - 1. Deliver materials in a manner to prevent damage to containers and/or bags.
- B. Storage of materials:
 - 1. Store materials in a clean, dry and heated (if necessary) location (50-90° Fahrenheit) furnished by others.

1.05 Guarantee

One year from date of substantial completion of terrazzo installation.

PART 2 - PRODUCTS

2.01 Materials

- A. Primer: As recommended by epoxy resin supplier.
- B. Epoxy resin mixed according to manufacturers recommendation and tested without aggregate added. All specimens cured for 7 days at 75° plus or minus 2° Fahrenheit and 50% plus or minus 2 R.H. The product shall meet the following requirements:

PROPERTY	TEST METHOD	REQUIREMENT
Hardness	ASTM D-2240, using Shore D Durometer	60-85
Tensile Strength	ASTM-D-638, run at .2" min. Specimen made using "C" die listed in ASTM D-412	3,000 psi min.
Compressive Strength	ASTM D-695, Specimen B cylinder	10,000 psi min.
Chemical Resistance	ASTM D-1308, 7 days at room temperature by immersion method have no deleterious effects. The following contaminants used: Distilled Water 1% Soap Solution Mineral Water 10% Sodium Hydroxide Isopropanol 10% Hydrochloric Acid Ethanol 30% Sulfuric Acid .025 Detergent Solution 5% Acetic Acid	

- C. Epoxy resin mixed according to manufacturers recommendations and blended with 3 volumes of Georgia White marble blended 60% #1 chip and 40% #0 chip, ground and grouted with epoxy resin according to 3.02 C-2-Finishing to a nominal 1/4" thickness. All specimens cured 7 days at 75° plus or minus 2° Fahrenheit and 50% plus or minus 2% R.H. The finished epoxy terrazzo shall meet the following requirements:
 - 1. Flammability: When tested in accordance with ASTM-D-635, the epoxy terrazzo shall comply with the following value: Self-extinguishing, extent of burning 0.25 inches maximum.
 - 2. Thermal coefficient of linear expansion: When tested in accordance with ASTM-D-696, the epoxy terrazzo will comply with the following value: 25 X 10, 6 inches per inch per degrees to 140° Fahrenheit maximum. Temperature range, 12° to 140° Fahrenheit.



3. Bond strength: When tested in accordance with Field Test Method for surface soundness and adhesion as described in ACI Committee No. 403 Bulletin Title No. 59-43 (Pages 1139-1141) the epoxy terrazzo shall comply with the following value: 100% concrete failure minimum with 300 PSI minimum tensile strength. *Note: This test is intended to evaluate the bond to the concrete subfloor. A 100% concrete failure indicates a good bond.*

D. Marble chips:

1. Size: To conform with NTMA gradation standards. *Note: See product information.*
2. Abrasion and impact resistance when testing in accordance with ASTM C 131-89 shall not exceed 40% loss.
3. 24 hour absorption rate not to exceed 0.75 percent.
4. Chips shall contain no deleterious or foreign matter.
5. Dust content less than 1% by weight.

E. Strips:

1. Stop and divider "L" strips _____ gauge. (Select gauge white alloy of zinc or plastic. Consult with manufacturer of epoxy resin if brass strips are desired.) *Note: Select gauge from following gauge 18, 16 or 14 B&S gauge or 1/8, 1/4 or 3/8 inch heavy top "L" or "K" type. Construct joint double "L" strips back to back, 16 gauge white alloy of zinc material.*

F. Terrazzo cleaner:

1. Ph factor between 7 and 10 where applicable.
2. Biodegradable and phosphate free.

G. Sealer:

1. Ph factor between 7 and 10 where applicable.
2. Shall not discolor or amber.
3. Flash Point: ASTM D-56, 80° Fahrenheit minimum where applicable.
4. U/L listed as "Slip Resistant".

H. Resin epoxy terrazzo: *See below* **

2.02 Mixes

A. Terrazzo selection:

1. Type: _____ *Note: Select color and design from NTMA information guide or color plates. Any deviation must be clearly stipulated.*

B. Proportions:

1. Epoxy terrazzo topping: In accordance with resin supplier's recommendations.

C. Mixing:

1. Terrazzo topping: Charge and mix marble chips, filler and epoxy resin in accordance with manufacturer's recommendations.

PART 3 - EXECUTION

3.01 Inspection

A. Examine areas to receive terrazzo for:

1. Defects in existing work that affect proper execution of terrazzo. *Note: Cracks in substrate will usually be transmitted through topping to surface.*
2. Deviations beyond allowable tolerance for the concrete slab work. *Note: Subfloor not to vary more than 1/4 inch from true plane in 10 feet. Epoxy terrazzo, as specified, is not intended to level substrate and will only follow the contour of the concrete slab. If, for any reason, the subcontractor questions the suitability of the substrate for bonding, any work required to eliminate nonconformity of subsurface specifications is the responsibility of others. Any materials used to correct nonconformity must be compatible with epoxy system selected and be approved by the terrazzo contractor.*

B. Start work only when all defects have been corrected by others.

3.02 Installation

A. Subfloor:

1. Prepare substrate to receive epoxy terrazzo in accordance with manufacturer's recommendations.
2. Install control joints directly above control joints in subfloor.
3. Install divider strips as shown on drawings.

B. Placing terrazzo:

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

C. Finishing:

1. Rough grinding:
 - a. Grind with 24 or finer grit stones or with comparable diamond plates.
 - b. Follow initial grind with 80 or finer grit stones.
2. Grouting:
 - a. Cleanse terrazzo with clean water and rinse.
 - b. Remove excess rinse water and hand apply grout using identical color as used in topping, taking care to fill voids.
3. Cure grout. *Note: Grout may be left on terrazzo until all heavy and messy work in project is completed.*
4. Fine grinding:
 - a. Grind with 80 or finer grit stones until all grout is removed from surface.
 - b. Upon completion, terrazzo shall show a minimum of 70% marble chips.

D. Cleaning and sealing:

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

E. Protection:

1. Upon completion, the work shall be ready for final inspection and acceptance by the owner or his agent.
2. The general contractor shall protect the finished work from the time that the terrazzo contractor completes the work.

** CONDUCTIVE EPOXY TERRAZZO

The following should be added to the epoxy resin terrazzo specifications.

H. Resin epoxy terrazzo:

1. Conductivity: Meet or exceed all the requirements of Bulletin 56A of the National Fire Prevention Association for Conductive Floors. *Note: 1.01.H.7, this requirement calls for conductive floors to have an electrical resistance of less than 1,000,000 ohms and more than 25,000 ohms.*