

**SECTION 09 67 23.50  
RESINOUS (EPOXY TERRAZZO) FLOORING**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

A. This section specifies epoxy terrazzo flooring systems with integral cove base.

B. Resinous (Epoxy Terrazzo) Flooring Systems:

1. Thinset Epoxy or Urethane Matrix Terrazzo.

**1.2 RELATED WORK**

A. Concrete and Moisture Vapor Barrier: Section 03 30 00, CAST-IN-PLACE CONCRETE.

B. Sealants installed with Terrazzo: Section 07 92 00, JOINT SEALANTS.

C. Color and location of each type of resinous (epoxy terrazzo) flooring: FINISH LEGEND (Sheet A-602).

D. Floor Drains: Division 22, PLUMBING.

**1.3 SUBMITTALS**

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Manufacturer's Literature and Data:

1. Description of each product to be provided.
2. Application and installation instructions.
3. Onsite Maintenance Training: Provide onsite training to staff on how to clean, maintain & repair flooring.
4. Maintenance Instructions: Submit manufacturer's written instructions for recommended maintenance practices.

C. Qualification Data: For Installer.

D. Sustainable Submittal:

1. Product data for products having recycled content, submit documentation indicating percentages by weight of postconsumer and preconsumer recycled content.
  - a. Include statements indicating costs for each product having recycled content.
2. Product data for field applied adhesives, include printed statement of VOC content indicating compliance with environmental requirements.

E. Samples:

1. Each color and texture specified in FINISH LEGEND (Sheet A-602)

2. Samples for verification: For each (color and texture) resinous flooring system required, 6 inches (152 mm) square, applied to a rigid backing by installer for this project.
  3. Sample showing construction from substrate to finish surface in thickness specified and color and texture of finished surfaces. Finished flooring must match the approved samples in color and texture.
  4. Accessories: (6 inches) 152 mm long sample of exposed strip item.
- F. Shop Drawings: Include plans, sections, component details, and attachment to other trades. Indicate layout of the following:
1. Patterns.
  2. Edge configuration.
  3. Divider strips.
  4. Control-joint strips.
  5. Accessory strips.
  6. Abrasive strips.
- G. Certifications and Approvals:
1. Manufacturer's certification of material and substrata compliance with specification.
  2. Manufacturer's approval of installer.
  3. Contractor's certificate of compliance with Quality Assurance requirements.
- H. Warranty: As specified in this section.

#### **1.4 QUALITY ASSURANCE**

- A. Manufacture Certificate: Manufacture shall certify that a particular resinous flooring system has been in use for a minimum of five years.
- B. Installer Qualifications: Engage an experienced installer (applicator) who is experienced in applying resinous flooring systems similar in material, design, and extent to those indicated for this project for a minimum period of 5 years, whose work has resulted in applications with a record of successful in-service performance, and who is acceptable to resinous flooring manufacturer.
1. Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.
  2. Contractor shall have completed at least 10 projects of similar size and complexity. Include list of at least 5 projects. List must include owner (purchaser); address of installation, contact information at installation project site; and date of installation.

3. Installer's Personnel: Employ persons trained for application of specified product

C. Source Limitations:

1. Obtain primary resinous flooring materials including primers, resins, hardening agents, grouting coats and finish or sealing coats from a single manufacturer.
2. Provide secondary materials, including marble chips, aggregate, strips, patching and fill material, joint sealant, and repair material of type and from source recommended by manufacturer of primary materials.
3. Obtain marble chips, aggregate color, grade, type, and variety of granular materials from one source with resources to provide materials of consistent quality in appearance and physical properties.
4. Material furnished shall meet NTMA Specifications.

D. NTMA Standards: Comply with NTMA's "Terrazzo Specification and Design Guide" and written recommendations for terrazzo type indicated unless more stringent requirements are specified.

E. Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and establish quality standards for materials and execution.

1. Apply full-thickness mockups on 48 inch (1200 mm) square floor area selected by VA Resident Engineer.
  - a. Include 48 inch (1200 mm) length of integral cove base.
2. Approved mockups may become part of the completed work if undisturbed at time of Substantial Completion.
3. Sign off from VA Resident Engineer on texture must be complete before installation of flooring system.

F. Pre-Installation Conference:

1. Convene a meeting not less than thirty days prior to starting work.
2. Attendance:
  - a. Contractor
  - b. VA Resident Engineer
  - c. Manufacturer and Installer's Representative
3. Review the following:
  - a. Environmental requirements
    - 1) Air and surface temperature
    - 2) Relative humidity
    - 3) Ventilation

- 4) Dust and contaminants
  - b. Protection of surfaces not scheduled to be coated
  - c. Inspect and discuss condition of substrate and other preparatory work performed. Subfloor condition, must be level.
  - d. Review and verify availability of material; installer's personnel, equipment needed
  - e. Design and pattern and edge conditions.
  - f. Performance of the coating with chemicals anticipated in the area receiving the resinous (epoxy terrazzo) flooring system
  - g. Application and repair
  - h. Field quality control
  - i. Cleaning
  - j. Protection of coating systems
  - k. One-year inspection and maintenance
  - l. Coordination with other work
- G. Manufacturer's Field Services: Manufacturer's representative shall provide technical assistance and guidance for surface preparation and application of coating systems.
- H. Contractor Job Site Log: Contractor shall document daily; the work accomplished environmental conditions and any other condition event significant to the long term performance of the terrazzo installation. The Contractor shall maintain these records for one year after Substantial Completion.

#### **1.5 MATERIAL PACKAGING DELIVERY AND STORAGE**

- A. Deliver materials to the site in original sealed packages or containers, clearly marked with the manufacturer's name or brand, type and color, production run number and date of manufacture.
- B. Protect materials from damage and contamination in storage or delivery, including moisture, heat, cold, direct sunlight, etc.
- C. Maintain temperature of storage area between 60 and 80 degrees F (15 and 26 degrees C).
- D. Keep containers sealed until ready for use.
- E. Do not use materials beyond manufacturer's shelf life limits.

#### **1.6 PROJECT CONDITIONS**

- A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring applications.

1. Maintain material and substrate temperature between 65 and 85 degrees F (18 and 30 degrees C) during resinous flooring application and for not less than 24 hours after application.
- B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.
- C. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application, unless manufacturer recommends a longer period.
- D. Concrete substrate shall be properly cured for a minimum of 30 days. A vapor barrier must be present for concrete subfloors on or below grade. Otherwise, an osmotic pressure resistant grout must be installed prior to the resinous flooring.
- E. Concrete subfloors must be ground and leveled completely prior to terrazzo installation.

#### **1.7 WARRANTY**

- A. Work subject to the terms of the Article "Warranty of Construction" FAR clause 52.246-21.
- B. Warranty: Manufacture shall furnish a single, written warranty covering the full assembly (including substrata) for both material and workmanship for a extended period of (3) full years from date of installation, or provide a joint and several warranty signed on a single document by manufacturer and applicator jointly and severally warranting the materials and workmanship for a period of (3) full years from date of installation. A sample warranty letter must be included with bid package or bid may be disqualified.

#### **1.8 APPLICABLE PUBLICATIONS**

- A. The publication listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. ACI (American Concrete Institute):  
Comm. 503.1-92.....Four Epoxy Specifications (Reapproved 2003).
- C. American Society for Testing and Materials (ASTM):  
C109.....Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2" or 50 mm Cube Specimens)  
C131-06.....Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

C150.....Standard Specification for Portland Cement  
C190-85.....Method of Test for Tensile Strength of Hydraulic  
Cement Mortars (Withdrawn 1990)  
C219-07a.....Standard Terminology Relating to Hydraulic  
Cement  
C267-01(2006).....Standard Test Methods for Chemical Resistance of  
Mortars, Grouts, and Monolithic Surfacing and  
Polymer Concretes  
C307-03 (2008).....Standard Test Method for Tensile Strength of  
Chemical-Resistant Mortar, Grouts, and  
Monolithic Surfacing  
C413-01(2006).....Standard Test Method for Absorption of Chemical-  
Resistant Mortars, Grouts, Monolithic Surfacing  
and Polymer Concretes  
C501-84(2002).....Standard Test Method for Relative Resistance to  
Wear of Unglazed Ceramic Tile by the Taber  
Abraser  
C531-00(2005).....Standard Test Method for Linear Shrinkage and  
Coefficient of Thermal Expansion of Chemical-  
Resistant Mortars, Grouts, Monolithic  
Surfacing, and Polymer Concretes  
C579-01(2006).....Standard Test Method for Compressive Strength of  
Chemical-Resistant Mortars, Grouts, Monolithic  
Surfacing, and Polymer Concretes  
C580-02(2008).....Standard Test Method for Flexural Strength and  
Modulus of Elasticity of Chemical-Resistant  
Mortars, Grouts, Monolithic Surfacing, and  
Polymer Concretes  
C638-09.....Standard Descriptive Nonmenclature of  
Constituents of Aggregates for Radiation-  
Shielding Concrete  
C722-04.....Standard Specification for Chemical-Resistant  
Monolithic Floor Surfacing  
C811-98(2008).....Standard Practice for Surface Preparation of  
Concrete for Application of Chemical-Resistant  
Resin Monolithic Surfacing  
C881/C881M-02.....Standard Specification for Epoxy-Resin-Base  
Bonding Systems for Concrete

C882-05.....Standard Test Method for Bond Strength of Epoxy-  
Resin Systems Used With Concrete By Slant Shear  
D56-05.....Standard Test Method for Flash Point by Tag  
Closed Cup Tester  
D92-05a.....Standard Test Method for Flash and Fire Points  
by Cleveland Open Cup Tester  
D412-06ae2.....Standard Test Methods for Vulcanized Rubber and  
Thermoplastic Elastomers-Tension  
D570-98(2005).....Standard Test Method for Water Absorption of  
Plastics  
D635-06.....Standard Test Method for Rate of Burning and/or  
Extent and Time of Burning of Plastics in a  
Horizontal Position  
D638-08.....Standard Test Method for Tensile Properties of  
Plastics  
D648-07.....Standard Test Method for Deflection Temperature  
of Plastics Under Flexural Load in the Edgewise  
Position  
D695-08.....Standard Test Method for Compressive Properties  
of Rigid Plastics  
D696-08.....Standard Test Method for Coefficient of Linear  
Thermal Expansion of Plastics Between -30°C and  
30°C With a Vitreous Silica Dilatometer  
D1308-02(2007).....Standard Test Method for Effect of Household  
Chemicals on Clear and Pigmented Organic  
Finishes  
D1652-04.....Standard Test Method for Epoxy Content of Epoxy  
Resins  
D2047-04 .....Standard Test Method for Static Coefficient of  
Friction of Polish-Coated Flooring Surfaces as  
Measured by the James Machine  
D2240-05.....Standard Test Method for Rubber Property -  
Durometer Hardness  
D4060-07.....Standard Test Method for Abrasion Resistance of  
Organic Coatings by the Taber Abraser  
E84-09c.....Standard Test Method for Surface Burning  
Characteristics of Building Materials  
E162-09.....Standard Test Method for Surface Flammability of  
Using a Radiant Heat Energy Source

- E648-09a.....Standard Test Method for Critical Radiant Flux  
of Floor- Covering Systems Using a Radiant Heat  
Energy Source
- F1869-09.....Standard Test Method for Measuring Moisture  
Vapor Emission Rate of Concrete Subfloor Using  
Anhydrous Calcium Chloride
- F2170-09.....Standard Test Method for Determining Relative  
Humidity in Concrete Floor Slabs Using in situ  
Probes
- G21-96(2002).....Standard Practice for Determining Resistance of  
Synthetic Polymeric Materials to Fungi
- D. Army Corps of Engineers Guide Specs:
  - 245.05.....Scratch Resistance
- E. Federal Test Method Standards (FTMS):
  - 141a.....Method 6192 (CS #17 Wheel)
  - 372.....Critical radiant Flux
- F. Military Specification (Mil Spec):
  - MIL-PRF-3134.....Para. 3.6, Resistance to Elevated Temperature
    - Para. 3.15, Impact Resistance
    - Para. 4.7.3, Indentation Resistance
    - Para. 4.7.3, Indentation, No Cracking or Loss of  
Bond Water Absorption
    - Para. 4.7.4.2.1, Indentation under Steadily  
Applied Load
    - Para. 4.7.5.1, Resistance to Elevated  
Temperatures
    - Para. 4.7.8, Water Absorption
    - Para. 4.7.14, Adhesion
- G. National Association of Architectural Metal Manufacturers (NAAMM):
  - AMP 501.....Finishes for Aluminum
- H. National Fire Protection Association (NFPA):
  - 56A.....Inhalation Aesthetics replaced by NFPA 99  
Standard for Health Care Facilities
  - 253.....Critical Radiant Flux
- I. National Terrazzo and Mosaic Association, Inc. (NTMA).
  - "Terrazzo Specifications and Design Guide"
  - "Terrazzo Color Palette"
- J. Terrazzo, Tile and Marble Association of Canada. (TTMAC).
- K. The Society For Protective Coatings (SSPC):



SP6.....Commercial Blast Cleaning

L. Underwriters Laboratories (UL):

UL410.....Slip Resistance of Floor Surface Materials

## **PART 2 - PRODUCTS**

### **2.1 SYSTEM DESCRIPTION FOR RESINOUS (EPOXY TERRAZZO) FLOORING**

A. System Descriptions:

1. Monolithic, multi-layer, trowel applied multi-component epoxy urethane terrazzo and integral cove base. UV stable and breathable where required.

B. Systems shall meet or exceed all applicable NTMA and TTMAC standards.

C. System Components: Verify specific requirements as systems vary by manufacturer. Verify compatibility with substrate. Use manufacturer's standard components, compatible with each other and as follows:

1. Bond Coat (Primer): Verify inclusion of primer in manufacturer's system.

a. Resin: Epoxy.

b. Formulation Description: 100 percent solids.

c. Binder: Formulated to meet physical properties of MIL-D-3134F.

d. Application Method: Apply by spray, brush, or roller.

- 1) Thickness of coats: Verify thickness as systems vary by manufacturer; approximate range from 5 to 6 mils (0.13 to 0.15 mm) to 150 to 250 square feet per gallon (52.76 to 87.93 square meters per liter).

2. Body Coat:

a. Resin: Epoxy or Urethane.

b. Formulation Description: 100 percent solids.

c. Binder: Formulated to meet physical properties of MIL-D-3134F.

d. Application Method: Varies by manufacturer; hand or power troweled.

1) Trowel application:

- a) Thickness of coat: Verify thickness as systems vary by manufacturer; approximate range from 3/16 inch or 1/4 inch or 3/8 inch (4.76 to either 6.35 mm or 9.5 mm).

b) Number of coats: One.

- e. Aggregates: Verify amount per thickness as systems vary by manufacturer:
  - 1) Marble (#1 size maximum), glass, or granite chips or other approved materials. Colored rubberized aggregates
- 3. Grout Coat:
  - a. Resin: Epoxy.
  - b. Formulation Description: 100 percent solids.
  - c. Application Method: Varies by manufacturer. Apply by red rubber squeegee or spring-steel trowel.
    - 1) Apply to rough ground mortar coat to completely fill all voids.
    - 2) Thickness of coat: Verify thickness as systems vary by manufacturer; approximate range from a minimum of 8 to 10 mils (0.2 to 0.25 mm) to a maximum of 400 to 500 square feet per gallon (140.65 to 175.81 square meters per liter).
- 4. Seal Coat/Top Coat:
  - a. Resin: Single- or multi-component Urethane.
  - b. Formulation Description: 100% solids. It shall have a pH factor between 7 and 10 and shall be a penetrating type specially prepared for use on terrazzo. It shall not discolor or amber the terrazzo and shall produce a slip resistant surface. Flash point of sealer shall be a minimum of 80 degrees F (26 degrees C) when tested in accordance with [ASTM D 56](#).
  - c. Application Method: Varies by manufacturer. Apply using notched squeegee and backroll or using a lambs wool applicator.
    - 1) Apply to fine ground mortar coat to completely fill all voids.
    - 2) Thickness of coat: Verify thickness as systems vary by manufacturer; approximate range from a minimum of 4 to 5 mils (0.1 to 0.13 mm) to a maximum of 500 to 750 square feet per gallon (175.81 to 263.74 square meters per liter).
    - 3) Number of coats: One.
  - d. Aggregates: Verify inclusion of slip-retardant aggregates in seal coat/top coat.
  - e. Textured Top Coat: Slip Resistant in accordance with UL 410.
- D. System Characteristics:
  - 1. Color and Pattern: As indicated in FINISH LEGEND (sheet A-602).
  - 2. Integral cove base: 1 inch (25.4 mm) radius epoxy mortar cove keyed into concrete substrate. Verify cove base installation with manufacturer's system.

3. Overall System Thickness: Verify thickness as systems vary by manufacturer; approximate range from a minimum of 3/16 inch (4.76 mm) to a maximum of either 1/4 inch or 3/8 inch (6.35 mm or 9.5 mm). Finished system must be completely level.

4. Finish: Standard anti-slip resistant to meet or exceed 0.06 dry; 0.08 wet.

E. Physical Properties:

1. Conform to ASTM C722, Type A, Epoxy resin, quartz aggregate.
2. Other physical properties of seamless troweled (quartz epoxy) resinous flooring system in addition to C722 when tested to be as follows:

Test	Property	Value
ACI 503 R	Adhesion	350 psi /100% concrete failure
ASTM C-109	Compressive Strength	4000 PSI
ASTM C-190	Tensile Strength	800 PSI
ASTM C-307	Tensile Strength	800 PSI
ASTM C-413	Water Absorption	< 0.5%
ASTM C-531	Thermal Coefficient of Linear Expansion	$4.7 \times 10^{-8}$
ASTM C-579	Compressive Strength	6000 PSI
ASTM C-580	Flexural	2000 to 4500 psi
ASTM C-92	Flash Point	140 degrees F
ASTM D-635	Flame Spread	< 0.25 inches (6.35 mm)/self extinguishing
ASTM D-638	Tensile Strength	3000 psi
ASTM D-695	Compressive Strength	12,000 psi
ASTM D-696	Thermal Co-efficient of Linear Expansion	$14 \times 10^{-6}$ inch /inch /degrees F
ASTM D-790	Flexural Modulus	500000 psi
ASTM D-2240 Shore D	Surface Hardness	80-90
ASTM D3108	Chemical Resistance	Refer to manufacturer's Chemical Resistance Charts for appropriate topping materials for required degrees of UV stability, resistance to environmental conditions, anticipated chemical reagents, or other

Test	Property	Value
		applicable requirements
ASTM D-3960	Volatile Organic Compounds (VOC)	Primer Coat: 0 Base Coat: 0 Top Coat: 0
ASTM D-4060, CS-17	Abrasive Resistance	0<0.1 gm max weight loss
ASTM D-4541	Tensile Bond Strength	Cohesive Failure of Concrete
ASTM E-162	Flammability	<1
ASTM E-648	Critical Radiant Flux	<1
ASTM F-1679	Co-efficient of Friction	Dry - 0.81 Wet - 0.56
ASTM G-21	Microbial Resistant	Passes
Mil Std. 810E	Fungus Resistance	No Growth
Mil PFR-3134	Indentation Characteristics	<5% / no cracking and loosening
-	Skid Resistance	Must pass
-	Density	125 lb/cu. ft.

## 2.2 SUPPLEMENTAL MATERIALS

- A. Waterproofing Membrane: Type recommended or produced by manufacturer of resinous (epoxy terrazzo) flooring for type of service and conditions as indicated in Drawings.
- B. Crack Isolation Membrane: Type recommended or produced by manufacturer of resinous floor coating.
- C. Anti-Microbial Additive: Incorporate anti-microbial chemical additive to prevent growth of most bacteria, algae, fungi, mold, mildew, yeast, etc.
- D. Strips:
  1. Dividing strips "L" shaped as manufactured for use with resinous (Epoxy Terrazzo) flooring system.
    - a. White alloy zinc, 16 (1.518mm)gauge.
    - b. Plastic dividing strips shall not be used.
  2. Control Joint double "L" shaped strips as manufactured for use with resinous (Epoxy Terrazzo) flooring system. Position strips back to back.
    - a. White alloy zinc, 14 (1.897mm)gauge.
    - b. Plastic strips shall not be used.

- E. Patching and Fill Material: Resinous product of or approved by resinous (Terrazzo) flooring manufacturer for application indicated.
- F. Joint Sealant: Type recommended or produced by resinous flooring manufacturer for type of service or joint conditioned indicated.

### **2.3 BASE CAP STRIP**

- A. Aluminum, Extruded: ASTM B221, Alloy 6063-T6.
- B. Shape for 3/16 inch (4.76 mm) depth of base material, "J" configuration.
- C. Finish:
  - 1. Finish exposed surfaces in accordance with NAAMM Metal Finishes Manual.
  - 2. Aluminum: NAAMM Amp 501:
    - a. Clear anodic coating, AA-C22A41 chemically etched medium matte, with Architectural Class 1, 0.018 mm (0.7 mils) or thicker.

## **PART 3 - EXECUTION**

### **3.1 INSPECTION**

- A. Examine the areas and conditions where resinous (epoxy terrazzo) flooring system with integral base is to be installed with the VA Resident Engineer.
- B. Moisture Vapor Emission Testing: Perform moisture vapor transmission testing in accordance with ASTM F1869 to determine the MVER of the substrate prior to commencement of the work.
  - 1. MVT threshold for resinous (terrazzo) flooring shall not exceed 3 lbs/1000 square feet in a 24 hour period.
  - 2. When MVT emission exceeds this limit, apply manufacturer's recommended vapor control primer or other corrective measures as recommended by manufacturer prior to application of flooring or membrane systems.
  - 3. Perform additional substrata preparation as recommended by resinous flooring manufacturer's technical representative to obtain satisfactory results of moisture vapor transmission testing prior to commencement of the work.
  - 4. Provide a written report showing test placement and results.

### **3.2 PROJECT CONDITIONS**

- A. Maintain temperature of rooms (air and surface) where work occurs, between 70 and 90 degrees F (21 and 32 degrees C) for at least 48 hours, before, during, and 24 hours after installation. Maintain temperature at least 70 degrees F (21 degrees C) thereafter.
- B. Maintain relative humidity less than 75 percent.

- C. Do not install materials until building is permanently enclosed and wet construction is complete, dry, and cured.
- D. Maintain proper ventilation of the area during application and curing time period.
  - 1. Comply with infection control measures of the VA Medical Center.

### **3.3 INSTALLATION REQUIREMENTS**

- A. The manufacturer's instructions for application and installation shall be reviewed with the VA Resident Engineer for the resinous (terrazzo) flooring system with integral cove base.
- B. Substrata shall be approved by manufacture technical representative.

### **3.4 PREPARATION**

- A. General: Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean, dry, flat, smooth and neutral Ph substrate for resinous flooring application.
- B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.
  - 1. Mechanically prepare substrates as follows:
    - a. Shot-blast surfaces with an apparatus that abrades the concrete surface, contains the dispensed shot within the apparatus, and recirculates the shot by vacuum pickup.
    - b. Comply with ASTM C 811 requirements, unless manufacturer's written instructions are more stringent.
  - 2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written recommendations.
  - 3. Verify that concrete substrates are dry.
    - a. Perform in situ probe test, ASTM F 2170. Proceed with application only after substrates do not exceed a maximum potential equilibrium relative humidity of 75 percent.
    - b. Perform maximum moisture-vapor-emission test, ASTM F 1869. Proceed with application only after substrates has obtained satisfactory results. If needed perform additional moisture tests until substrates pass testing.
  - 4. Verify that concrete substrates have neutral Ph and that resinous flooring will adhere to them. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.

- C. Resinous Materials: Mix components and prepare materials according to resinous flooring manufacturer's written instructions.
- D. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.
- E. Correct high areas by grinding. Grind areas flush and smooth with adjacent surface. Treat exposed concrete per manufacturer's recommendations.
- F. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written recommendations. Allowances should be included for flooring manufacturer recommended joint fill material, and concrete crack treatment.
- G. Prepare wall to receive integral base:
  - 1. Verify wall material is acceptable for resinous flooring application, if not, install material (e.g. cement board) to receive base.
  - 2. Fill voids in wall surface to receive base, install undercoats (e.g. water proofing membrane, and/or crack isolation membrane) as recommended by resinous flooring manufacturer.
  - 3. Grind, cut or sand protrusions to receive base application.

### **3.5 APPLICATION**

- A. General: Apply each component of resinous (epoxy terrazzo) flooring system with integral base according to manufacturer's directions to produce a uniform monolithic flooring surface of thickness indicated.
  - 1. Verify that the substrate (dryness, pH level, etc.) is acceptable by the manufacturer's technical representative.
  - 2. Use manufacturer recommended cleaning products.
- B. Prepare substrate for resinous (terrazzo) flooring system:
  - 1. Apply waterproof membrane as recommended by resinous flooring manufacturer at all vertical junctures and the entire flooring substrata. Embed fabric reinforcement into waterproof membrane liquid. Overlap all seams a minimum of 2 inches (51 mm).
  - 2. Apply crack isolation membrane as recommended by resinous flooring manufacturer.
  - 3. Apply substrata smoothing/patching underlayment as recommended by resinous flooring manufacturer.
- C. Resinous (epoxy terrazzo) flooring system: Per manufacturer's written instructions. Based on the porosity of the substrate additional coats may be required:
  - 1. Primer (Bond) Coat.

2. Strips: Set divider and control strips as indicated on plans. Strips shall be set in a full bed of epoxy adhesive and allowed to cure before proceeding with the work.
3. Body Coat: Apply body coat (including aggregate) evenly over the primer (bond) coat to the desired thickness.
4. Power grind to expose aggregate.
5. Grout Coat.
6. Progressively fine grind and polish floor. Cleanse terrazzo with potable water and rinse. Remove excess rinse water and apply grout using identical Portland cement, color pigments as used in topping, ensuring to fill all voids. Cure Grout as recommended by manufacturer.
  - a. Grout may be left on terrazzo until all heavy and messy work in project is completed.
  - b. Fine grind until all grout is removed from surface.
  - c. Upon completion, terrazzo flooring shall display a minimum of 70% of marble chips or aggregate.
7. Cleaning: Wash all surfaces with a neutral cleaner. Rinse with clean water and allow surface to dry
8. Seal Coat (Top Coat). Apply sealing coats of type recommended by manufacturer to produce finish matching approved samples.
9. Cove base: Apply cove base mix to wall surfaces at locations shown to form cove base to form 6-inch (152 mm) cove base height as shown in Drawings. Follow manufacturer's instructions and details including taping, mixing, priming, troweling, grinding, polishing, and top-coating of cove base.
  - a. When wall surface is not concrete, concrete masonry unit, install cement board and/or exterior grade plywood at locations shown to form cove base.

### **3.6 TOLERANCE**

- A. From line of plane: Maximum 1/8 inch (3.18 mm) in total distance of flooring and base.
- B. From radius of cove: Maximum of 1/8 inch (3.18 mm) plus or 1/16-inch (1.59 mm) minus.

### **3.7 CURING, PROTECTION AND CLEANING**

- A. Cure resinous (epoxy terrazzo) flooring in compliance with manufacturer's directions (during the application process), taking care to prevent contamination during stages of application and prior to completion of curing process.



- B. Close area of application for a minimum of 24 hours.
- C. Protect resinous (epoxy terrazzo) flooring materials from damage and wear during construction operation.
  - 1. Cover flooring with wax paper or Kraft paper.
  - 2. Cover paper with 1/4 inch (6.35 mm) thick hardboard, plywood, or particle board where area is in foot or vehicle traffic pattern, rolling or fixed scaffolding and overhead work occurs.
- D. Remove temporary covering and clean resinous (Epoxy Terrazzo) flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous (Epoxy Terrazzo) flooring manufacturer.

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