

# General Procedures for Installing Epoxy Terrazzo

## 1. Moisture Testing

Concrete slabs receiving resinous terrazzo flooring must be tested for relative humidity according to ASTM F-2170 (Relative Humidity in Concrete Floor Slabs using in situ probes). Installers can use Wagner Electronics Rapid RH® 4.0 Smart Sensor and Rapid RH® Easy Reader to take measurements for relative humidity. RH Readings below 75% do not require the application of a vapor moisture mitigation system. Relative humidity of 75% or higher will require the use of a Moisture Mitigation System.

In cases where the ASTM-F-2170 probe test cannot be done, a ASTM-F-1960 Anhydrous Calcium Chloride test should be performed. The moisture vapor transmission should be below 3 pounds per 1,000 square feet per 24 hours. All readings should be confirmed with the resin suppliers before taking action on preparing the concrete floor for epoxy terrazzo.

**Product Info:** Use **TERRAZZO Moisture Mitigation System MMS 950** when relative humidity exceeds the threshold of 75% relative humidity

## 2. Surface Preparation

Prior to the pouring of epoxy terrazzo, installers will examine the concrete for proper level tolerance. If the concrete is out of tolerance, the installation team will address the issues with the General Contractor until the concrete is compliant. When compliant, installers may begin the terrazzo installation process by either shot blasting or grinding the floor to open up the concrete for proper adhesion. During this stage, the concrete surface must be free of dirt, waxes, curing agents, and other foreign materials. Once the concrete has been shot blasted, installers will vacuum clean the floor.

## 2a. Applying Moisture Mitigation System

If a moisture mitigation system is required, **TERRAZZCO Moisture Mitigation System MMS 950** is applied once the concrete substrate has been shotblasted and cleaned. MMS 950 should be applied to cracks prior to those cracks being filled with rigid epoxy.

TERRAZZCO MMS 950 is a VOC-free two-component epoxy resin sure with an amine curing agent and applied on the top of concrete slabs. This coating provides a barrier against moisture vapor transmission for slabs possessing relative humidity measurements greater than 75%. MMS 950 yields approximately 300-400 square feet per mixed use. Coverage is based on porosity of the concrete and may require a second application for very porous surfaces. When applying MMS 950, do not apply the product over wet surfaces.

### Mixing and Applications Instructions for TERRAZZCO Moisture Mitigation System MMS 950

1. Pour the pre-measured MMS hardener part B into pre-measured MMS 950 part A and mix thoroughly for two to three minutes using a drill equipped with a jiffy blade.
2. Add 1.25 L (0.33 gal) water and mix for two minutes.
3. Continue adding 1.25 L (0.33 gal) water and mix for two minutes.
4. Continue adding 1.25 L (0.33 gal) water and mix for two minutes.
5. Continue adding 1.25 L (0.33 gal) water and mix for two minutes.
6. Once the mixture has been thoroughly mixed, the product may be applied by roller, squeegee or brush. Apply evenly with no puddles, making sure of uniform coverage. Coverage will vary depending upon porosity of the substrate. Multiple coats may be necessary for very porous surfaces. All the product to cure for 5-6 hours.

Also, prior to installation installers will inspect the surface for excessive cracking and floor level tolerance. Flexible membranes are applied to assist in the prevention of substrate cracks through the lifecycle of the epoxy terrazzo floor. Leveling fill epoxy is applied to create a uniformly even surface. Installers can use **TERRAZZCO Floor Aid Flexible Membrane 528** and **TERRAZZCO EZPour Leveling Fill Epoxy 162**.

## 2b. Applying Flexible Membrane

To assist in the prevention of substrate cracks transferring to the terrazzo floor finish, installers will apply **TERRAZZCO Floor Aid Flexible Membrane 528**.



TERRAZZCO Floor Aid Flexible Membrane FM 528 is a 100% solids (VOC free), two-component epoxy system applied to concrete in order to prevent cracks from forming due to horizontal movement. TERRAZZCO Floor Aid Flexible Membrane FM 528 helps provide a crack resistant, resilient, and durable floor throughout the epoxy terrazzo lifecycle.

When using TERRAZZCO Floor Aid Flexible Membrane 528, the concrete surface must not contain puddles of water, and should not be used on concrete less than 28 days old. This product may also be used with a fibercloth mesh on concrete surfaces with larger cracks. Floor Aid Flexible Membrane should be used to treat all cracks, control joints, and cold pour joints in the substrate. Do not fill cracks with Flexible Membrane 528. Instead a rigid epoxy such as EZPour Epoxy 158 or Leveling Fill Epoxy 162 should be used.

### **Mixing and Applications Instructions for TERRAZZCO Floor Aid Flexible Membrane 528**

1. Premix FM 528 resin part A using a low-speed drill and jiffy blade for two to three minutes
2. For one unit, add two (2) parts Flexible Membrane 528 resin part A to one (1) part Flexible Membrane 528 hardener part B. Mix using the drill and jiffy blade for two to three minutes. Materials are supplied packaged so that the entire contents of hardener part B is added to the container of resin part A and mixed in the container.
3. Pour the mixed material onto the working area and spread using a squeegee or trowel to achieve 40 mils dry film thickness yielding 300 square feet per unit. Apply more material to areas showing greater penetration and soaking into the substrate.

### **2c. Applying Leveling Fill**

When the floor level is out of tolerance, installers will use **TERRAZZCO EZPour Leveling Fill Epoxy 162**.

TERRAZZCO Leveling Fill Epoxy 162 is a 100% solid (VOC-free) two-component epoxy resin system that may be combined with aggregate and applied by trowel to the desired thickness. Prior to applying the leveling fill epoxy, installers should make sure all cracks and joints in the concrete are treated beforehand.

### Mixing and Applications Instructions for TERRAZZCO EZPour Leveling Fill Epoxy 162

1. Premix TERRAZZCO® Leveling Fill Epoxy 162 part A before use
2. Mix five (5) parts of TERRAZZCO® Leveling Fill Epoxy 162 resin part A with one (1) part of TERRAZZCO® hardener 162 part B by volume with a slow speed drill until liquids are completely blended.
3. Introduce the appropriate amount of aggregates and continue to mix

### 3. Floor Layout

Once the concrete is prepared to standard, an installer can begin developing the floor layout. Installers will place specified divider strips according to the project design, including all saw cuts and expansion areas. Divider strips are secured in place.

Divider strips function as color transitions or to control expansion joints. Epoxy terrazzo allows for complex design patterns, often using waterjet technology to cut precise logos and artwork.

**Product Info:** TERRAZZCO can custom fabricate **waterjet templates** for logos, seals, and artistic floor designs for installation.

### 4. Installing Epoxy Terrazzo

Ratio for epoxy terrazzo is a 5:1 ratio of a part A resin to a part B hardener. **TERRAZZCO Groutless EZPour Epoxy 158** is a pigmented, 100% solid (VOC-free) two-component epoxy resin system that is combined with aggregates, poured in place and troweled at 1/4" or 3/8" nominal thickness.

### Mixing and Applications Instructions for TERRAZZCO EZPour Leveling Fill Epoxy 162

1. Premix TERRAZZCO® Groutless™ EZPour Epoxy 158 resin Part A before using. Mix five (5) parts of TERRAZZCO® 158 resin part A with one (1) part of TERRAZZCO® hardener 158 Part B by volume with a slow speed drill until liquids are completely blended. Introduce the appropriate amount of aggregate and continue to mix. For complete installation instructions, contact your Concord Terrazzo Company representative.

Installers will pour in place the epoxy terrazzo mix in a specified area for that color. Once an amount of epoxy terrazzo is placed on the surface, installers will use a hand trowel to evenly



distribute the terrazzo within the divider strips at 3/8" thickness. About 100-200 square feet of epoxy terrazzo should be hand troweled before an installer can use an electric power trowel to finish troweling the terrazzo, closing up any gaps and voids. The process is finished when an

area of the same color is completely enclosed by the divider strip. Typically, one color of epoxy terrazzo is installed per day. Allow the section to cure for 18-24 hours.

## 5. Grinding Epoxy Terrazzo

Once the epoxy terrazzo has been poured in placed and cured, the next step is to grind the terrazzo. This step will transition the epoxy terrazzo from a rough to smooth surface. Installers will insert the appropriate grit diamond to the floor grinder, a 40 or 80 grit diamond depending on the hardness of the aggregate.

Installers should begin in the area where the terrazzo was first poured as it has been curing the longest. Using the electric floor grinder, an installer will slowly push the grinder along the a path. At the end of the path, the installers pulls the grinder in reverse along the same path that the grinder was pushed forward. This process is repeated several times in an area, using side to side motion to not form a trench. After 4-5 passages, installers will check the floor for an exposed divider strip.

Once the floor is rough grinded, all the edges can be ground using an edge grinder. This includes areas such as the walls, columns and anywhere the electric grinder cannot reach. After the edge work is completed, it is recommended that 2 passes of 100 grit diamonds be run to help blend the floor before grouting.

## 6. Grouting Epoxy Terrazzo

**TERRAZZO Groutless EZPour Epoxy 158** matrix has been formulated to cure with fewer pinholes reducing the amount of labor required in the grouting phase of any terrazzo project. In over 50% of installations, no grouting was required when using this product.

Typically, terrazzo floors will form pinholes after the grinding process and require grouting. Grouting refers to covering any pinholes and voids. Prior to grouting the ground floor, an installer should clean the floor with water and scrubber and then vacuum the surface completely dry. Once the floor is completely dry, the installer will mix up an epoxy color to be grouted (5:1 ratio) in small amounts approximately a quart.

Next, an installer will pour the epoxy mix and tightly work the epoxy into any pinholes and voids using a flat straight edge trowel. After a large section is grouted lightly, an installer will dust the



wet grout with AFT-20 and lightly push a broom over the sand to work the sand into the pinholes.

Same procedures are taken until all the colors of the epoxy terrazzo floor are grouted.

## 7. Polishing Terrazzo Floor

The procedures for polishing a terrazzo floor is similar to the rough grinding stages; however, it is performed wet and not dry.

An installer will begin using a 80 grit carborundum stones or 100 grit resin pads to remove the epoxy grout. This is done by moving in the same motion and patterns as in the rough grinding stage.

Grout on the edges can be removed in similar fashion as in the rough grinding stage using a 120-grit diamond disk and then repeated using a 200-grit resin pad. Afterwards the floor can be finished with 200 grit resin pads. Unless the owner requires a higher polish therefore, an installer will repeat previous steps increasing the grit to specified finish. Vacuum polishing slurry and start with fresh water when changing between increasements of diamond grit.

## 8. Cleaning/Sealing

The final stage of the terrazzo flooring process involves cleaning and sealing the surface. Installers will vacuum up all polishing slurry from previous stage and then clean the floor with fresh water and a neutral soap scrub with an electric scrubber. Afterwards the installer will vacuum and rinse the floor with water, vacuumed again, and left completely to dry.

When the terrazzo floor is completely dry, a thin coat of sealer is applied to a mop head and microfiber applicator. An installer will cover all areas of the terrazzo floor with the first coating and allow time to dry. A second coat is then applied afterward.

Once two coats of sealer have been applied and completely dried, the terrazzo installation is complete, and the project is turned over to the general contractor to put down floor protection.

## 9. Maintenance

Terrazzo floors made with **TERRAZZO Groutless EZPour Epoxy 158** is simply cleaned with neutral soaps or detergents. Regular mechanical scrubbing is recommended for all surfaces



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having a non-skid texture. Long periods of heavy foot traffic may necessitate reapplication of a finish coat. We also advise the owner to consult the National Terrazzo & Mosaic Association guidelines for maintaining terrazzo surfaces.

**NOTES:** Once the floor preparation has started there is to be no traffic on the floor except for terrazzo workers. Once epoxy terrazzo has been poured and cured the floor can be open to other trades if necessary and continue during rough grinding as long as it does not inhibit the grinding process. Once again during cleaning and grouting there is no traffic allowed. After the grout has cured the floor can open to other trades if necessary, with protection. When it is time for polishing, cleaning, and sealing the terrazzo floor there is no traffic allowed other than for terrazzo workers. And not until it is turned over to the General Contractors for protection should it be open for other trades.

It is recommended that no lifts of any kind to be allowed on the floor until the floor is completed and turned over to the General Contractor and only when protection is in place.

Any damage after the installation is completed is the responsibility of the General Contractor to have fixed at their cost.