

Crown Thin-Set Epoxy Terrazzo™

Product Description Sheet No. 370

A Thin-Set Epoxy Terrazzo Decorative Floor System Balancing Aesthetics with Performance

Description

Crown Polymers Thin-Set Epoxy Terrazzo™, Product No. 370, is a decorative flooring system combining 100% solids, pigmented, epoxy resin with colored marble, granite, onyx or glass chips, or other approved aggregates in a troweled Epoxy Polymer Concrete (EPC) System.

After placement of the EPC Terrazzo the surface is mechanically ground and polished to create a smooth surface that reveals the natural beauty of the aggregates surrounded by the coordinating epoxy matrix.

An optional 100% solids flexible epoxy membrane is available with or without scrim for bridging cracks, and increasing flexural and live load properties. Each system adds waterproofing, durability, and toughness to the floor system.

Vapor transmission treatment is available in a single coat application when the vapor transmission exceeds 3-lbs./1000 ft². The penetrating epoxy polymer, CrownCote™ Vapor Barrier is an exclusive system created by Crown Polymers to stop or reduce vapor transmission.

CrownCide™ an antimicrobial additive, known also as a biocide, is available upon request.

The completed system is then sealed with a U.V. resistant polymer topcoat that enhances the colors within the overlay, provides excellent wearability and slip resistance.

Advantages

- Aesthetically attractive appearances
- Durable and wear resistant
- Seamless or divided into decorative patterns
- Unlimited color and design options
- Chemical and stain resistant
- ADA Slip resistant compliance

Typical Data for Crown Thin-Set Epoxy Terrazzo

(Material and Curing Conditions at 73°F unless noted, 50% R.H.)

Color: Standard Colors. Computerized color matching available. NTMA and TTMAC standard color plates.

Hardness, @ 24 hours Shore D

ASTM D2240 85/65

Compressive Strength,

ASTM D695 10,000 psi

Tensile Elongation,

ASTM D638 2-4 %

Tensile Strength,

ASTM D638 3,500 psi

Flexural Strength,

ASTM C580 4,500 psi
ASTM D790 10,000 psi

Flexural Modulus

ASTM D790 500,000 psi

Adhesion

ACI 503R 350 psi
100% concrete failure

Abrasion Resistance,

ASTM D4060,
CS-17 Wheel, 1,000 gr.
Load 1,000 cycles, lost 70-90 mg

Water Absorption,

ASTM D570 0.10 %

Critical Radiant Flux

NFPA 253 / FTMS 372 /
ASTM D648 Greater than 1.01
watts/cm²
Class 1 interior finish

Indentation

Mil-D-3134 No indentation

Impact Resistance,

MIL-D-3134, Sec. 4.7.3 Withstands 16 ft.-lbs. without
cracking, whipping or
delaminating

Resistance to Elevated Temperatures,

MIL-D-3134J No slip or flow at required
temperature of 158°F

Flammability, over concrete

ASTM D635 Self-extinguishing

Thermal Coefficient of Linear Expansion,

ASTM D696, 24 X 10⁻⁶ in./in./°F

Slip Resistance Complies with ADA Standards

Placement Advantages

- Thickness ¼ or ⅜ in.
- Excellent working time & very safe to use
- Cures and adheres on dry or damp concrete
- Applicable and curable down to 40°F
- 100% Solids, No shrinkage, No VOC's
- Low odor during application
- Cures with minimal surface voids
- Requires less grinding & grouting labor
- Meets/exceeds all NTMA & TTMAC standards

Where to Use

Use on clean concrete surfaces.

- Health care, pharmaceuticals, research, and clean rooms
- Commercial, retail, and institutional facilities
- Animal care and animal research

Activity Centers

Airports

Baggage Areas
Service Areas
Terminals

Animal Care

Reception

Laboratories

Chemical
Health

Clean Rooms

Convention Centers

Corridors

Computer Assembly

Garages

Hospitals

Cafeterias
Corridors
Laboratories
Lobbies
Patient Rooms
Rest Rooms

Cafeterias

Locker Rooms

Schools

Shopping Malls

Pharmaceutical

System Short Specification

Crown Polymers Thin-Set Epoxy Terrazzo, Product No. 370 floor system as manufactured by Crown Polymers, LLC shall consist of a primer, a terrazzo epoxy binder, Crown Polymers Thin-Set Epoxy Terrazzo, Product No. 370, marble, granite, onyx, glass chips or other approved aggregates, an epoxy filler used as a surface grout, Crown Polymers Thin-Set Epoxy Terrazzo, Product No. 370, and a water-based urethane topcoat, CrownPro WP, Product No. 345.

Options include:

Surface Vapor Barrier Treatment: CrownCote Vapor Barrier, Product No. 303.

Flexible Membrane: CrownFlex Membrane, Product No.304

Reinforcement: CrownFlex Glass Fiber Scrim, Product No. SP 684

Antimicrobial Additive: CrownSilver, Product No.SP668

Crack and Joint Systems: As recommended by the Polymer Manufacturer.

Higher Performance Topcoat: CrownPro 4, Product No. 330; or CrownPro 6, Product No. 333.

7 Days Chemical Resistance ASTM D1308

<u>Solution</u>	<u>Result</u>
Distilled Water	No effect
Ethanol	No effect
Mineral Water	No effect
0.25% Detergent Solution	No effect
1% Soap Solution	No effect
5% Acetic Acid	No effect
10% Hydrochloric Acid	No effect
10% Sodium Hydroxide	No effect
30% Sulfuric Acid	No effect

Stain Resistance, 24 Hours Spill Test

No evidence of a permanent stain after cleaning surface. Epoxy Terrazzo was sealed.

Aliphatic Solvents	Salt Dry
Blended Fruit Juices	Salt Solution
Blood	Sugar Solution
Catsup	Tap Water
Citrus Fruit Juice	Vegetable Juice
Motor Oil	Uric Acid (urine)

Limitations

- ◆ Do not apply on wet or water saturated surfaces.
- ◆ Do not apply when substrate temperature is below 40°F.
- ◆ Do not thin with solvents or other materials, they will prevent proper cure.
- ◆ Substrate temperature must be at least 5°F above the dew point.

Temperature

Throughout the application and curing process, substrate temperature should be 40°F to 90°F. When substrate temperature falls below 60°F, precondition materials as specified by polymer manufacturer. Substrate temperature must be at least 5°F above the dew point. Applications on interior or exterior concrete substrates should occur while temperature is falling to lessen out gassing. The material should not be applied in direct sunlight if possible.

Maintenance

Occasional inspection of the installed system, resealing, and spot repair can prolong system life. For specific information, contact Crown Polymers.

How to Apply Thin-Set Epoxy Terrazzo

Surface Preparation

Crown Polymers Thin-Set Epoxy Terrazzo™, Product No. 370, can be applied to a variety of substrates such as wood, quarry tile, cement board, concrete block, glazed tiles, etc., if the substrate is properly prepared. Concrete surfaces shall be abrasive blasted to remove all surface contaminants and laitance. The prepared surface shall be tested to verify adhesion of the contacting polymer with tests specified by the Specifier or the Shear Cup Method providing 100% concrete failure as the test value. Contact Crown Polymers for additional information. After initial surface preparation has been completed, inspect the substrate surface for bug holes, voids, fins and other imperfections. Protrusions shall be ground smooth while voids shall be filled with a Crown Polymers' system compatible with the system and approved by Crown Polymers. Contact Crown Polymers for recommendations

Preconditioning Polymer

When temperatures drop, polymers typically thicken and it becomes harder to flow or to spread the product. When the temperatures are warmer, they typically become thinner. To improve the flow-ability maintains product temperature before mixing at about 20°C (73°F). When the substrate temperature is 15°C (60°F) or lower, preheat each epoxy component to 90°F before mixing. Caution the pot life will be reduced by about 50%.

Membrane (Optional)

Mixing and Application

1. CrownFlex™ Membrane, Product No.304 - Premix Component A (resin) only when pigmented, using a low speed drill and Jiffy mixer. Mix for two minutes until a uniform homogeneous mix has developed exercising caution not to introduce air into the material.

2. Add 1 part No. 304 Component B (curing agent) to 1 part No. 304 Component A (resin) by volume. Mix with low speed drill and Jiffy mixer for two minutes and until a uniform homogeneous mix has developed.

3. Immediately pour the mixed material onto the substrate and spread evenly over the substrate using a v-notched rubber squeegee at a spread rate of 53 square feet per gallon to yield 30 wet or dry mils thickness. Readings must be taken continuously during application with a wet mil gauge to verify material is being applied at the proper thickness. Allow material to cure for 6 to 8 hours at 73°F surface temperature before placement of next polymer. Material cures slower at lower temperatures.

Glass Fiber Scrim (Optional)

Application

1. If optional **CrownFlex™ Glass Fiber Scrim**, Product No.SP684 is used, the scrim should be placed into the wet surface of the CrownFlex Membrane, Product, No.304 do not push the scrim to the concrete substrate. The pattern of the scrim should be visible and still covered with the epoxy.

Primer

Mixing and Application

1. The primer is the neat (no aggregate) Crown Polymers Thin-Set Epoxy Terrazzo, Product No. 370. Premixing of the Component A (resin), primer, Product No. 370 is not necessary unless the material is purchased pigmented.

2. Add 1 part No. 370 Component B (curing agent) to 5 parts No. 370 Component A (resin) by volume. Mix with low speed drill and Jiffy mixer for two minutes until a uniform homogeneous mix has developed exercising caution not to introduce air into the material.

3. No. 370 may be applied by air-less sprayer, squeegee and back rolled, or brushed in smaller areas. Apply at the rate 267 square feet per gallon to yield 6 mils thickness, wet or dry, evenly without puddles making sure of uniform coverage. Coverage will vary depending upon porosity of the substrate and surface texture. If required apply more material to evenly wet-out the entire surface. If primer is not going to be overlaid within the epoxy's open time, broadcast silica sand into resin lightly but uniformly and allow curing.

4. No waiting after primer application is required before applying the epoxy polymer concrete (mortar).

EPC Terrazzo

Mixing and Application

1. Crown Polymers Thin-Set Epoxy Terrazzo, Product No. 370 - Premix Component A (resin) for two minutes until uniform consistency develops, using a low speed drill (300 to 600 rpm) and a Jiffy mixer. Mix, exercising caution not to whip air into the material.

2. Add 1 part Component B (curing agent) into 5 parts Component A (resin), measurement by volume. Mix with low speed drill and Jiffy mixer for one to two minutes until a uniform homogeneous mix has developed. Typical mix ratio is 1 mixed gallon of epoxy to 30 lbs. selected aggregate. (Different aggregate blends could change epoxy to aggregate blend ratio). Continue mixing until all aggregates are properly wetted and a homogeneous mix has developed.

3. Immediately pour the mixed material onto the substrate and hand or power trowel in place.

4. Allow material to cure 12-24 hours minimum.

COVERAGE: ¼ in. 11 to 13 ft² /gal
⅜ in. 8 to 10 ft² /gal

Grinding

Rough Grinding

1. Grind with 24 and 80 grit stones or with comparable diamond plugs.

Grout Coat

Mixing and Application

1. Premix Component A (resin) using a low speed drill and Jiffy mixer. Mix for two minutes until a uniform homogeneous mix has developed, exercising caution not to introduce air into the material.
2. Add 1 part Component B (curing agent) to 4 parts Component A (resin) by volume. Mix with low speed drill and Jiffy mixer for one to two minutes until a uniform homogeneous mix has developed exercising caution not to introduce air into the material.
3. Add 3 to 5 lbs of Terrazzo Grout Additive per mixed gallon of epoxy and mix with low speed drill and Jiffy mixer for two minutes until a uniform homogeneous mix has developed. Apply using a rubber squeegee or spring-steel trowel to fill all voids completely.
4. Allow to cure 12-24 hours minimum.

Grinding

Fine Grinding

1. Grind with a minimum 80 grit stone until all grout is removed from surface. Upon completion, terrazzo shall show a minimum of 70% - 75% of marble chips.

Repeat Rough Grinding and Grout Coat steps if a high number of large voids still exist.

Seal Coat – CrownPro™ WP47, Product No.345

Mixing and Application

1. Mix Product No. 345 per manufacturer's directions.
2. Apply Product No. 345 using a lamb's wool applicator. Apply at a spread rate of 300 to 350 square foot per gallon evenly with no puddles making sure of uniform coverage.
3. Allow to cure 1-4 hours before applying second coat.
4. Allow 24 hours minimum before opening to traffic.

NOTE: No special ventilation is required when using CrownPro™ WP47, Product No.345 water-based Polyurethane. There is nearly no odor.

Cleanup

Clean up mixing and application equipment immediately after use with soap and water.

Seal Coat – Used when higher traffic volumes or excessive wear is expected – CrownPro™ 4 or 6, Product No's. 330 or 333.

Mixing and Application

1. Mix Product No. 330 or 333 per manufacturer's directions.
2. Apply Product using a lamb's wool applicator. Apply at a spread rate of 250 to 325 square foot per gallon evenly with no puddles making sure of uniform coverage.
3. Allow to cure 1-4 hours before applying second coat, if required.
4. Allow 24 hours before opening to traffic.

NOTE: Adequate ventilation and proper safety equipment is required when using CrownPro™ 4 or 6, Product No's. 330 or 333.

Cleanup

Clean up mixing and application equipment immediately after use. Use toluene or xylene. Observe all health precautions when handling or storing solvents.

Safety

MSDS (Material Safety Data Sheets) and Product Literature (PDS) must be read and understood by personnel responsible for supervision and installation. In particular, Personal Protection Data should be consulted to help insure safe handling. All applicable federal, state, local, and particular Owners' safety guidelines must be followed during the storing, handling, installation and cure of these materials. Safe and proper disposal of excess materials shall be done in accordance with applicable federal, state, and local codes.

For the Location of Your Nearest Crown Polymers Representative:

**CALL NATIONWIDE TOLL-FREE
1-888 / 732-1270**



LIMITED WARRANTY - "Crown Polymers, LLC warrants its products to be free ions of manufacturing defects, to be of good quality, and that they will meet Crown Polymers current published physical properties when applied in accordance with Crown Polymers written directand tested in accordance with ACI, ASTM and Crown Polymers Standards. Product proved to be defective will be replaced. **There are no other warranties by Crown Polymers, LLC of any nature whatsoever, expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product.** Crown Polymers, LLC shall not be liable for damages of any sort, including remote or consequential damages, resulting from any claimed breach of any warranty, whether expressed or implied, from any other cause whatsoever. Crown Polymers will not be responsible for use of this product in a manner to infringe on any patent held by others."