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CrownTerrazzo™ Thin Set Epoxy Terrazzo

TECHNICAL DATA SHEET Product Number: 8370

Thin-Set Epoxy Terrazzo Incorporates Marble & Glass Chips, Oyster Shell & Other Aggregates

DESCRIPTION

CrownTerrazzo No. 8370 is a pigmented two-component epoxy binder that is used to create the most decorative floors in the construction industry. It is formulated to meet the physical properties of the NTMA (National Terrazzo and Mosaic Association), TTMAC (Terrazzo, Tile and Marble association of Canada) and Crown Polymers thin-set terrazzo flooring standards. It is installed at a normal thickness of 3/8 inch (9.5 mm), but can be applied as thin as 1/4 inch (6.35 mm). The thickness of the installation will be affected by the aggregate sizes. The most common chips are marble, which naturally occur in different colors and MOH's hardness. Recycled glass adds color and a three-dimensional depth, while Mother of Pearl, other aggregates and pigment colors are incorporated to create unique "one of a kind" looks.

TYPICAL USES

- Airport, Bus and Train Terminals
- Hospital and Health Care Facilities
- Schools and Universities
- Retail Spaces and Mall Common Areas
- High End Designer Floors

BENEFITS

- Create Monolithic to Polylithic looking floors with the use of different colors and divider strips.
- Resists staining vs. cement and polyacrylate terrazzo.
- Light weight and does not require a slab depression.
- Complies with USDA, FDA, Food Safety Modernization Act. See **Crown Polymers Technical Bulletin: No. 3 Food and Beverage Compliance.**
- Slip Resistance (ADA). See **Crown Polymers Technical Bulletin: No. 4 Coefficient of Friction.**
- USGBC LEED® and Green Seal® requirements. See **Crown Polymers Technical Bulletin: No. 5 LEED and Green Seal Information.**
- VOC and EPA Compliant all states and provinces in North America. Cures to an inert finish. See **Crown Polymers Technical Bulletin: No. 2 VOC Compliance**
- Strong and Tough, out performs all other decorative floors
- Intended for new floors and for resurfacing old floors

LIMITATIONS

- This product is best suited for applications in temperatures between 60°F to 90°F (16°C to 32°C). See **Crown Polymers Technical Bulletin: No. 7 Temperature and Relative Humidity Limits**
- Cracked concrete **substrate must be repaired prior to placement. See Crown Polymers Technical Bulletin: No. 14 Crack Repair and Crown Polymers Technical Bulletin: No. 13 Crack Dampening and Isolation Membrane.**
- Higher temperature installations will result in shortened working time and drying time.
- Requires primer when applied directly to concrete and cementitious overlayments. See **Crown Polymers Technical Bulletin: No. 20 Selecting a Primer**
- Fiberglass or scrim cloth is recommended for dimensional stability. See **Crown Polymers Technical Bulletin: No. 15 Fiberglass or Scrim Cloth for Dimensional Stability**

COLORS

CrownTerrazzo No. 8370 color palate is nearly infinite, submit color(s) for color matching to Crown Polymers.

COVERAGE RATE (1,000 SQ. FT.)

Description	1/4 inch	3/8 inch
CrownPrime	5 gal	5 gal
CrownTerrazzo	77 gal	100 gal
Terrazzo Marble Fillers	385 lbs.	500 lbs.
#0 Marble Chips	1,538 lbs.	1,000 lbs.
#1 Marble Chips	1,100 lbs.	1,100 lbs.
#2 Marble Chips	n/a	1,000 lbs.
CrownTerrazzo Grout	3 gal	3 gal
Terrazzo Marble Grout	25 lbs.	25 lbs.

CONCRETE

Concrete must be structurally sound and free of curing agents, coatings, sealers, densifiers and other bond breakers.

New Concrete:

- Place concrete per ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Floor Materials.
- Water Cement Ratio 0.4 to 0.5, and an approximate 4,000 psi (28 MPa) strength level.
- Requiring a positive side moisture barrier in direct contact with the concrete meeting ASTM E1745 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.

The moisture barrier needs to be placed per ASTM E1643 Standard Practice for Selection, Design, Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs, Class A 15 mils (0.38mm)

Existing Concrete:

If field tests or laboratory analysis reveals interior concrete flooring slabs containing contaminants from previously applied unreacted silicate materials that will interfere with the bond, use CrownPrime WBC No. 8201. See **Crown Polymers Technical Bulletin: No. 20 Selecting a Primer.**

- Contaminants include, but are not limited to organic hydrocarbon materials, calcium chlorides and aluminum stearates.
- Concrete flooring slabs can lose their structural strength over time, caused by conditions beyond the control of the flooring manufacturer or the installation contractor.
- If the concrete substrate deteriorates sufficiently, it will no longer support the bond of the remediation floor system.

Such conditions are detailed in ACI 201.2R “Guide to Durable Concrete” published by the American Concrete Institute. **See Crown Polymers Technical Bulletin: No. 1 Concrete Surface Preparation.**

CHEMICAL RESISTANCE DATA

ASTM D1308 5 Days @ 70°F

No deleterious effects:

- Distilled Water
- Mineral Oil
- Isopropanol
- Ethanol
- Soap solution at 1 percent
- Sodium hydroxide at 10 percent solution
- Hydrochloric acid at 10 percent solution
- Hydrochloric acid at 30 percent solution
- Detergent Solution Diluted to 0.025%
- Acetic Acid at 5 percent solution

CHECK CONCRETE MOISTURE

Concrete must be dry before application of this floor coating material. Concrete moisture tests are required, either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe). Refer to appropriate Technical Data Sheet limits and **Crown Polymers Technical Bulletin: No. 6 Moisture Mitigation Negative Side Moisture Barrier.**

CHECK TEMPERATURE AND HUMIDITY

Floor and material temperature must be at or above the published Technical Data Sheet. Dew Point must be 5°F (3°F) or more below the surface temperature. Do not apply if humidity is at or above 85%. See **Crown Polymers Technical Bulletin: No. 7 Temperature and Relative Humidity Limits.**

SURFACE PREPARATION

Surface preparation in accordance with: ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair. The pH of the concrete substrate should be at 9 or above. All bond-breaking material must be removed. See **Crown Polymers Technical Bulletin: No. 1 Concrete Surface Preparation.**

APPLICATION EQUIPMENT

Depending on system applied: Variable low speed drill (450 rpm) with Jiffy® type impeller mixing paddle, disposable 3” brush for cutting in, 3/8 inch nap non-shedding phenolic core roller, drum mixer, paddle mixer, margin trowel, rectangular finishing trowel, hand grinder, planetary grinder, etc.

OPTIONAL ANTIMICROBIAL

The antimicrobial additive Silver® (sodium hydrogen zirconium phosphate) is a non-heavy metal biocide that can be added during the manufacturing process. (EPA Regulation Number 11631.2. and US Patent Number US 9,247,736 B2). The antimicrobial agent can be added to the top coat only for an economical application or it can be added to each step of the application, primer, body coat and top coat, which is recommended for abusive environments. See **Crown Polymers Technical Bulletin: No. 11 Understanding Silver® the Optional Antimicrobial Additive.**

MIXING

For ease of mixing and placement, the temperature of the “A” and “B” components should be between 70°F to 80°F (20°C to 26°C). Pre-mix the “A” and “B” component to ensure all raw material and pigments are dispersed uniformly. See **Crown Polymers Technical Bulleting: No. 10 Mixing Guidelines.**

Physical Properties at 77°F (25°C) 7 Day Cure (Unless stated otherwise)	
VOC (Volatile Organic Compounds), (VOC Calculated Per ASTM D3960)	<100 gr./lt.
Viscosity, Mixed	1200 cps
Mix Density, Mixed	9.2 – 10.5 lb./gal
Pot Life,1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass & Temperature	15 Minutes
Mix Ratio, by Volume	5:1
Minimum Application Surface Temperature	50°F
Dry to Touch 50°F to 90°F (10°C to 32°C)	5 to 10 Hours
Recoat Time 50°F to 90°F (10°C to 32°C)	10 to 16 Hours
Grind Time 50°F to 90°F (10°C to 32°C)	24 Hour Minimum
Full Cure 50°F to 90°F (10°C to 32°C)	7 to 14 Days
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)	1 Years
Packaging 6 gal, 30 gal (22.7 lt., 113.6 lt.)	

Mechanical Properties at 77°F (25°C) 7 Day Cure (Unless stated otherwise)	
Surface Preparation ICRI Guideline No. 310.2R Concrete Surface Profile (CSP 2 and above) Depending on System to be Installed and Condition of Concrete.	
Adhesion, ASTM D7234, Concrete Failure	>400 psi
Compressive Strength, ASTM D695 (Resin and Hardener)	10,000 psi
Compressive Strength, ASTM D579 (Resin, Hardener and Aggregates)	8,500 psi
Tensile Strength, ASTM D638	3,400 psi
Tensile Strength, ASTM C307	1,400 psi
Surface Hardness, ASTM D2240 Shore D	70 - 85
Abrasion Resistance, ASTM D4060 **1,000 cycles, Wheel No. CS17, 1000 gr. Load**	0.05 gr.
Flexibility, Bend Mandrel Coating Test, ASTM D522	Pass 1/8 Inch
Flame Test, ASTM E648, Bonded to Concrete	Class 1
Flammability, ASTM D635, Bonded to Concrete	Self-Extinguishing
Abrasion Resistance, ASTM D4060 Resin & Hardener **1,000 cycles, Wheel No. CS 17, 1000 gr. Load**	0.051 gr.
Coefficient of Linear Thermal Expansion, ASTM D696	2.5^{-5} inch/inch/degree F
Microbial (fungi) Resistance, ASTM G21 (Without the Anti-Microbial Agent)	Pass #1
Wet Dynamic Coefficient of Friction, ASNI 326.3 **Depends on texture of system selected, ranging from smooth to aggressive.** **Measured with BOT 3000E equipment.**	>0.45 (inclines) >0.42 (level)
Moisture Vapor Emission Rate, ASTM F1869*	3 lbs.
Moisture Relative Humidity, ASTM F2170*	80% RH
*If moisture or relative humidity exceeds the limits consult the Crown Polymers representative and refer to **Crown Polymers Technical Bulletin: No. 6 Moisture Mitigation Negative Side Moisture Barrier**	

Although testing is critical, it is not a guarantee against future problems. This is especially true if there is not a positive side vapor barrier or it is not functioning properly and/or concrete has contamination from oils, chemical spills, densifiers, excessive salts or other bond breakers.

APPLICATION

After mixing all contents as instructed, immediately pour all liquid material on to the properly prepared concrete Place trowel mortar mix within installation sequence. Place all steps per **Crown Polymer Installation Guidelines.**

SKID-RESISTANCE

Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3. See **Crown Polymers Technical Bulletin: No. 12 Wet Dynamic Coefficient of Friction.**

CLEAN-UP

Clean-up mixing station, tools and equipment as required. Use acetone, a VOC exempt solvent, for cleaning up. Observe all legal, and health and safety precautions when handling or storing solvents and materials, particularly in confined spaces. Make sure the working areas are well ventilated at all times during placement and curing time.

DISPOSAL

Dispose of empty packaging and other waste in accordance with federal, state, provinces and local regulations.

MAINTENANCE

Inspect the installed floor by spot cleaning and spot repairing the damaged or cracked areas. To prolong life of the flooring system, a daily maintenance program is highly recommended to ensure the floor is safe for its intended purposes. See **Crown Polymers Technical Bulletin: No. 8 Care and Maintenance.**

TECHNICAL SUPPORT

For questions, contact a Crown Polymers Representative.

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