

# RAPID CURE (RC) POLYACRYLATE TERRAZZO BINDER

## 1. PRODUCT NAME

Rapid Cure (RC) Polyacrylate Terrazzo Binder

## 2. MANUFACTURER

Bonsal American  
8201 Arrowridge Blvd.  
Charlotte, NC 28273-5678 USA

Telephone: 1.704.525.1621

Toll Free: 1.800.738.1621

Fax: 1.704.529.5261

## 3. PRODUCT DESCRIPTION

RC Polyacrylate Terrazzo Binder is an Eco-Friendly highly engineered component of the RC Polyacrylate Terrazzo Flooring System. RC Polyacrylate Terrazzo Binder is a single component, non-shrink, fast setting, polymer modified, factory blended calcium aluminate cement based binder that when combined with marble or other traditional aggregate forms a light-weight terrazzo that meets or exceeds the performance specification for Polyacrylate Modified Cement Terrazzo.

## FEATURES AND BENEFITS

- Limitless design possibilities accomplished through your choice of background color, aggregate selection, size and variety, placement of strip patterns
- Commercial (Extra Heavy Rated) Flooring / Finish
- Minimal, easy long-term maintenance
- Coefficient of Friction (COF – slip resistance) can be selected and achieved on site.
- Mixed and Installed Using Traditional Terrazzo tools and equipment
- Zero VOC - Safe for installers
- Zero flammability
- Water mix and clean up – no solvents required
- No detectable odor during installation
- No special waste product treatment Required
- Anti-Microbial
- Permanent life cycle
- High strength
- Minimal Shrinkage
- Low alkaline
- Breathable Moisture vapor tolerant
- Aesthetic quality of old-world cement terrazzo
- No color fading resulting from UV sensitivity
- Compatible with zinc, brass & aluminum metals
- Glass chips & stone aggregate compatible
- Rapid Cure supports fast track installation
- Accepts foot traffic in 3-4 hours

## USES

- Shopping malls and Supermarkets
- Hospitals and Health Care facilities
- Educational facilities
- Public Transportation
- Banks, Office Buildings and Hotels
- Commercial Institutions
- Retail

## LEED Certified Green Product:

- Building Reuse Credit: Lasts the lifetime of the structure and can be refinished, if desired. Recycled aggregate can be used.
- Indoor Emitting Materials: Cement based binder means zero VOC and VOE.
- Local Regional Materials Credit.
- Potential LEED innovation & design credit
- May contribute to LEED regional materials credit

## 4. TECHNICAL DATA:

### RC Terrazzo Binder with Aggregate:

Mix design: 4qts. (3.8L) of water to 50 lbs. (22.7kg) binder + 50 lbs. (22.7kg) marble aggregate (50% #1/ 50 #2 size)

Temperature / Humidity	72°F (22°C) / 55% RH	
Volume	0.70 – 0.73 ft <sup>3</sup>	
Working Time	25 – 35 minutes	
Time to Foot Traffic	3 – 4 hours	
Time to Dry/Wet Grind	16 / 24 hours	
Odor, Fire, Toxicity	Mil-D-3134J None	
Weight @1/4" / 3/8"	Mil-D-3134J 4.7.2	3.1 / 4.7 lb/ft <sup>2</sup>
Impact Resistance 16ftlbs @7d / 28d	Mil-D-3134J -4.7.3	No visible signs
Indentation 16 ftlbs @ 7d / 28d	Mil-D-3134J-4.7.4	5% / 6.6%
Elevated Temperature 5h @158F	Mil-D-3134J-4.7.5	No flow or Slip
Moisture Absorption	Mil-D-3134J-4.7.8	2.8%
Moisture Absorption in 23°C water	ASTM C-642	2.6%
Moisture Absorption in 100°C water	ASTM C-642	3.2%
Tensile Strength @28d	ASTM C-190	623psi
Tensile Bond Strength @ 28d	ASTM C-1583	300psi
Slant Shear Bond Strength @ 28d	ASTM C-882	811psi
Flexural Strength @ 28d	ASTM C-348	1165 psi
Thermal Coefficient of Expansion	ASTM C-531	5.5x10-6
Abrasion 28d (500g@500 cycles)	ASTM D-4060	420
Flammability (Ignition/combustion)	ASTM E-648-06a	None
Critical Radiant Flux @ 28d	ASTM E-648-06a	≥ 1.1W/cm <sup>2</sup>
Compressive Strength @ 4h / 28d	ASTM C-109	2741 / 8498psi
Water Vapor Transmission	ASTM E-96	>1.5 lbs / 24hr 1000 ft <sup>2</sup>

*Test results obtained under controlled laboratory conditions. Reasonable variations can occur due to atmospheric and job site conditions.*

## INSTALLATION

### SURFACE PREPARATION

Concrete substrates:

- Clean area and remove all unsound concrete, grease, oil, paint and any other foreign materials that will inhibit performance or bonding ability
- Substrates must be stable, solid and structurally sound.
- Substrate shall have the proper level and tolerance of flatness as defined by the architect. Use ProSpec Level Set products, installed per the manufacturer instructions, to bring the substrate within specified flatness. (Industry standard 1/4" (6mm) in 10' (3.5m) Allow the leveler to cure a minimum of 24 hours before installing RC Polyacrylate Terrazzo Binder.
- Existing structural concrete must be mechanically profiled by shot blasting, aggressive diamond grinding, sand blasting or scarifying to achieve an ICRI CSP 3 to CSP 5 standard.
- Treat non-moving substrate stress cracks with an approved injection system as specified by the architect. Treat moving cracks with RC Polyacrylate Terrazzo Crack Isolation Membrane as specified by the architect or owner.
- Repair deep areas, holes and non-moving cracks with ProSpec® Floor Patch Pro prior to application and allowing for a minimum of 3 hours cure. Following installation specifications located in the Technical Data Sheet.

*Install a bond breaker where vertical surfaces meet the new topping.*

**NOTE:** It is the responsibility of the installer/applicator to ensure that test areas are performed to determine the suitability of the product for its intended use.

#### Refer to:

- ASTM D 4259 Abrading Concrete
- ACI 201.1R Guide for Making a Conditions Survey of Concrete in Service
- ACI 224.1R93 Causes and Repair of Cracks in Concrete Structure
- ICRI 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.
- NTMA Bulletin "Installation of Terrazzo Divider Strips"

Strip Placement in accordance with industry standards:

- Honor all control joints, cold joints and expansion joints through the RC Polyacrylate Terrazzo Flooring System via divider strips and/or expansion joint sealants.
- Install architect selected terrazzo divider strips with a rapid setting cementitious on epoxy adhesive. Aluminum, brass & zinc divider strips are approved for use. Verify compatibility of strips made from other materials prior to use.
- Install perimeter ¼" soft joint respecting column lines and corners at all abutments.

### Crack Isolation:

- Refer to RC Polyacrylate Terrazzo Crack Isolation Membrane Technical Data Sheet for Installation. See instructions

### PRIMING:

- Refer to published RC Polyacrylate Terrazzo Primer Technical Data Sheet for handling instructions
- RC Polyacrylate Terrazzo Primer must be applied over entire substrate. Do not apply over standing water.
- If the primer turns clear in 30 minutes or less, then additional coats are needed.
- Allow the first coat to dry before applying additional coats.
- Allow RC Polyacrylate Terrazzo Primer to dry completely to a tacky translucent film with no milky wet spots before installation of the RC Polyacrylate Terrazzo Binder. Do not bridge over existing expansion or control joints.
- If primed floor is not covered with RC Polyacrylate Terrazzo Binder within 24 hours, primer must be reapplied.
- Protect primed substrate from foot traffic and contamination by other trades.

### MIXING:

1. Mixing ratio: [4qts. (3.8L) of water to 50 lbs. (22.7kg) binder + 50 lbs. (22.7kg) marble aggregate]
2. Add potable clean cool water into a clean mortar mixer with rotating ribbon blades.
3. Add RC Polyacrylate Terrazzo Binder while the mortar mixer is turning.
4. Mix completely for a minimum of 2-3 minutes, adding no additional water.
5. Add selected aggregate to the binder and mix for an additional 2 minutes creating a uniform terrazzo matrix.

Note: Mist stone aggregate chips prior to addition, avoiding excessive water

### PLACEMENT:

Place the RC Polyacrylate Terrazzo Binder / Aggregate mixture onto the floor.

- Trowel the mixture to the top of the strips.
- Trowel to a uniform surface revealing the lines of the divider strips.
- Protect from direct sunlight, elevated temperatures and air movement during the cure process.
- Allow 2-4 hours for the area to cure before starting an adjacent color.

## Grinding & Polishing:

- Prior to grinding, allow the RC Polyacrylate Terrazzo Binder / Aggregate mixture to cure, achieving a minimum Moh's hardness of 3-4.
- Typically at 72°F (22°C), dry grind waiting a minimum of 16 hours after installation and wet grind waiting a minimum of 24 hours after installation.
- After the rough grind, fill any pinholes with ProSpec ProColor Unsanded Grout.
- Add approximately 1.6 quarts (1.5L) clean potable water into a clean bucket.
- Add 10 Lbs(4.5kg.) of ProColor Unsanded Grout and mix mechanically with a low speed electric drill to achieve a homogeneous mixtur.
- Slake for 5 minutes and re-temper without additional water.
- Apply with the flat edge of the trowel over the entire surface filling all pinholes.
- Grout must be allowed to cure a minimum of 3-4 hours, depending on temperature, prior to polishing.

### NOTE:

Floor preparation is crucial in obtaining a successful terrazzo installation. The contractor is responsible for ensuring the substrate is properly prepared prior to the application of ProTerrazzo RC Polyacrylate Terrazzo Flooring System following all IMI/BAC application guidelines. RC Polyacrylate Terrazzo Flooring System will not correct or compensate for a structurally defective substrate. A test application is required.

**Refer to** the following for adjoining floor finishes:

- RFCI (Resilient Floor Covering Institute publication) MRP: Addressing Moisture Related. Problems Relevant to Resilient Floor Coverings Installed Over Concrete.
- NOFMA (National Oak Flooring Institute) publication: Installing Hardwood Flooring, Rev. 3/10/98
- TCA (Tile Council of North America) Handbook for Ceramic Tile Installation.
- American National Standard Specifications for the Installation of Ceramic Tile.
- NTMA (National Terrazzo and Mosaic Association) - Technical bulletin 83.

## CLEAN UP:

Use water to clean all tools immediately after use.

## Coverage:

4qts (3.8L) of water to 50 lbs (22.7kg) binder plus 50 lbs (22.7kg) marble aggregate (50% #1/ 50 #2 size)

Nominal Thickness Approximate Coverage  
3/8"(10 mm) up to 18-23 ft<sup>2</sup> (1.8m<sup>2</sup>)

**Note:** Coverage will vary depending on the aggregate size.

## PACKAGING:

50 lb. (22.7 kg) moisture resistant bags.

## STORAGE:

Always keep in cool/dry place unexposed to sunlight and tightly reseal container.

## SHELF LIFE:

6 months when stored properly in original unopened container.

## LIMITATIONS:

- For interior use only
- Project Supervisor and lead mechanics must be trained and be verified, in writing, by the IMI, International Masonry Institute, for RC Polyacrylate Terrazzo installation.
- Apply when air or substrate temperature is between 45° F (7°C) and 90°F (32°C) within 24 hours of application.
- Do not install when the substrate surface tensile bond strength is <72 psi (0.5 MPa) or less than 3,500 psi compressive strength.
- Do not over water, re temper, or add additional additives.
- Always install a test area, insuring suitability of RC Polyacrylate Terrazzo Flooring System for intended use
- Do not mix less than 1 bag of RC Polyacrylate Terrazzo Binder.
- Protect from excessive evaporation of moisture.
- Total finished floor thickness of RC Polyacrylate Terrazzo Flooring System must be >3/8" from the highest area on the floor.

**Note:** Do not over water as this will lower affect strength, abrasion resistance and may cause cracking, surface dusting, or pin-holing.

## Sealer:

- Use compatible water based, breathable sealer

**Note:** Sealer must provide adequate coeffience of friction.

**WARNING**

WARNING: INJURIOUS TO EYES. CAUSES SKIN IRRITATION. Read warnings on back panel.

ADVERTENCIAS: INJURIOUS A OJOS. LAS CAUSAS PELAN IRRITACIÓN. Lea las advertencias en atrás entropaño.

**WARNING:**

This product contains Portland cement and silica sand. Avoid contact with eyes and skin. Do not take internally. Crystalline silica sand may cause serious lung problems. Avoid breathing dust and wear a respirator in dusty areas. Contact with wet unhardened concrete, mortar, cement or cement mixtures can cause skin irritation, severe chemical burns or serious eye damage. Wear waterproof gloves, a fully buttoned long-sleeved shirt, full-length trousers and tight fitting safety goggles. If you have to stand in wet product, wear waterproof boots high enough to keep product from getting inside. If working on hands and knees, wear kneepads. Indirect contact through clothing can be as serious as direct contact. Promptly, rinse out wet product from clothing.

**KEEP OUT OF THE REACH OF CHILDREN AND ANIMALS.**

This product contains a chemical known to the state of California to cause cancer. Consult Material Safety Data Sheet for further information.

**FIRST AID:**

Eye Contact: Flood eyes with water for at least 15 minutes and consult a physician immediately. DO NOT RUB EYES. Skin Contact: Wash exposed skin area with soap and water. Consult a physician if irritation persists. Inhalation: Remove to fresh air. Ingestion: Immediately consult a physician.

For additional information, call Bonsal American at 704-525-1621 or CHEMTREC at 800-424-9300 or 703-527-3887 outside of the USA. Refer to Material Safety Data Sheet (MSDS) for further information.

LIMITED 1 YEAR WARRANTY FROM DATE OF MANUFACTURE: Bonsal American warrants that this product and the materials used therein shall for a period of one year after manufacture meet or exceed the applicable standards listed and enforced at the time of manufacture. Bonsal American will replace any product or part which proves defective due to quality of ingredients used or due to the manufacturing process itself. This Warranty shall apply only if the product is used in strict accordance with applicable specifications and instructions provided by Bonsal American for its use, and Bonsal American shall not be liable otherwise. Replacement of any defective product, or, at Bonsal American's option, refund of the purchase of any defective product shall be the buyer's sole remedy under this Warranty, and Bonsal American shall in no event be liable for any damages in excess of the purchase price of the defective product. BONSAL AMERICAN SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES INCLUDING LOSS OF PROFITS OF ANY KIND. Product demonstrations are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. This Warranty constitutes the sole warranty given by Bonsal American in connection with this product. No modification of this Warranty in favor of any buyer shall be valid unless given in writing and signed by an officer of Bonsal American. Bonsal American has authorized no person to make or give any other warranties or representations, oral or written, on its behalf. IN PARTICULAR, THERE ARE NO IMPLIED WARRANTIES, INCLUDING WITHOUT EXCEPTION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.