



## Product Information

### ***BDC Quartz Mortar System***

### ***Trowelable Decorative Mortar System***

#### **Description:**

B.D. Classic's Quartz Mortar System is a high build protective resurfacing system consisting of a vapor barrier 100% solids epoxy primer and a troweled down epoxy with color quartz aggregate. This system is then filled with 1-2 coats of a cycloaliphatic epoxy and a high-gloss, protective Chemical Resistant Urethane Topcoat. BDC's Quartz Mortar System provides the strength and durability of an industrial epoxy mortar system with the beautiful finish and appearance of a color quartz system.

#### **Advantages**

- Beautiful appearance without sacrificing systems strength
- Heavy build allows for creative sloping on irregular substrates
- Seamless floor system
- Wide range of colors available
- Available with an antimicrobial agent

#### **Uses**

- Commercial kitchens, locker rooms, showers
- Healthcare and Pharmaceutical facilities
- Laboratories, clean rooms
- Food and beverage facilities
- Animal Research

#### **System Specification**

Quartz Mortar System consists of BDC Vapor Seal Epoxy Primer, BDC 3300 Clear as the Tack coat, BDC Warm Cure Mortar Epoxy as the binder resin, 3M T-Grade Color Quartz as the aggregate, BDC 3300 Clear for fill coat(s), and BDC 9500 CRU as the final sealing topcoat.

#### **Installation**

The following information is to be used as a guideline for the installation of the Quartz Mortar System. Contact the Technical Service Department for assistance prior to application.

#### **Surface Preparation - Concrete**

##### **Inspection**

Concrete must be clean, dry, and free of grease, paint, oil, dust, curing agents, or any foreign material that will prevent proper adhesion. The concrete should be at least 2500 psi and feel like 30-grit sandpaper. The concrete should be porous and be able to absorb water. A minimum of 28 days cured is required on all concrete. Relative humidity in the concrete floor slab should be below 80% (per ASTM F-2170).

Before starting flooring work, test existing concrete slab to make sure there is no efflorescence or high levels of alkalinity. Alkalinity refers to a high pH reading which means the floor is not neutral. A high alkaline environment can cause salts to creep up through the cement called efflorescence. These salts have a tendency to prevent or destroy the bonding of coatings to the concrete. The most common form of testing is the use of a wide-range pH paper or tape. Make sure the floors pH reading ranges between 5-9 to ensure adhesion. The testing of concrete for alkalinity can show the amount of alkalinity only at the time the test is ran, and cannot be used to predict long-term conditions.

Calcium chloride tests should be conducted to determine if the concrete is sufficiently dry for an epoxy flooring installation. The calcium chloride tests should be conducted in accordance with the latest edition of ASTM F 1869, *Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride*. When running a calcium chloride test, it is important to remove any grease, oil, curing agents, etc. so accurate readings can be obtained. A rate of 4.5lbs/1000 ft<sup>2</sup>/24hr period or less is an acceptable amount of vapor pressure to skip the optional Vapor Seal Primer Coat. If the reading ranges from 4.5lbs to 15lbs, a moisture barrier system such as our BDC Vapor Seal can be installed to reduce the emissions. (See Primer)

Failing to adhere to these strict guidelines can result in product delamination, discoloration, blistering, or all together failure of the coating system. Testing is the responsibility of the applicator. B.D. Classic bears no responsibility for failures due to any of the above conditions.

Concrete surfaces shall be bead blasted or diamond grinded to remove all surface contaminants and laitance. After initial preparation has occurred, inspect the concrete for imperfections and treat as necessary. Any voids need to be filled using BDC 7200G Crack Patch Gel. Any high spots need to be ground smooth. For surface preparation recommendations, consult the Technical Service Department.

#### **Temperature**

Do not apply at temperatures below 50°F or above 95°F. Substrate temperature must be at least 5°F above the dew point. Applications on concrete substrates should occur during the cooler season to decrease the chances of outgassing. The material should not be applied in direct sunlight, if possible.

#### **Primer (Optional – See Inspection)**

**Use:** BDC Vapor Seal Primer

#### **Mixing and Application**

Premix each component separately. Mix 2 parts A Resin with 1 part B Hardener, by volume, into a clean container. Mix thoroughly with a low speed (400-600 rpm) drill motor/jiffy mixer for 3-4 minutes. Make sure to scrape the sides and bottom of the container during mixing.

BDC Vapor Seal should be applied using a 3/8" non-shedding nap roller, brush, or squeegee. Apply at approximately 200 sq. ft. per gallon (8) mils, evenly, with no puddles. Coverage will vary depending upon porosity of the substrate and surface texture. Let BDC Vapor Seal dry to touch before applying next step of system.

#### **Tack Coat**

**Use:** 3300 Clear

#### **Mixing and Application**

Premix each component separately. Mix 2 parts A Resin with 1 part B Hardener, by volume, into a clean container. Mix thoroughly with a low speed (400-600 rpm) drill motor/jiffy mixer for 3-4 minutes. Make sure to scrape the sides and bottom of the container during mixing.

BDC 3300 Clear should be applied using a ¼"-3/8" non-shedding nap roller, brush, or squeegee. Apply at approximately 250 sq. ft. per gallon (6-7 mils), evenly, with no puddles. Wait until primer is tacky (minimum 3 hours), before applying the Quartz Mortar. If Quartz Mortar is not going to be applied while 3300 Clear is tacky, broadcast silica sand into coating lightly but uniformly and allow curing overnight.

**Quartz Mortar**

**Use:** Warm Cure Mortar Epoxy w/ 3M T-Grade Color Quartz

**Mixing and Application**

Premix each component separately. Mix 2 parts A Resin (1 gallon) with 1 part B Hardener (1/2 gallon), by volume, into a clean container. Mix thoroughly with a low speed (400-600 rpm) drill motor/jiffy mixer for 3-4 minutes. Make sure to scrape the sides and bottom of the container during mixing.

Place mixed Warm Cure Mortar Epoxy into a KOL Mixal or Kenrich EAM4-60T5 bucket mixer. Slowly add 72 lbs of 3M T-Grade Color Quartz aggregate. Mix until aggregate is uniformly wet. Immediately dump mortar onto substrate and squeegee or skreet at 3/16". Coverage should be approximately 50sq ft per kit at 3/16". Coverage will vary depending on depth of system. Compact and smooth the mixed material using a hand or power trowel. When power troweling, take precaution not to burnish the color. Allow to cure overnight.

**Fill Coat**

**Use:** 3300 Clear

**Mixing and Application**

Premix each component separately. Mix 2 parts A Resin with 1 part B Hardener, by volume, into a clean container. Mix thoroughly with a low speed (400-600 rpm) drill motor/jiffy mixer for 3-4 minutes. Make sure to scrape the sides and bottom of the container during mixing.

Apply 3300 Clear using a steel trowel or red rubber squeegee and back roll using a 1/4" nap roller at a spread rate of 100 sq. ft. per gallon (16 mils).

Allow to cure overnight.

Apply additional fill coats if needed at a rate of 200-250 sq. ft. per gallon (6-8 mils).

**Sealing TopCoat**

**Use:** 9500 CRU

**Mixing and Application**

Premix each component separately. Add ½ gallon part 9500 A

(isocyanate) to ½ gallon part B (resin) by volume. Carefully add 16 oz of acetone to mixture. Mix with low speed drill and Jiffy mixer for three minutes and until uniform. Make sure to scrape the sides and bottom of the container during mixing.

Apply 9500 using a solvent proof 1/4" non-shedding nap roller at 300-400 square foot per gallon evenly with no puddles making sure of uniform coverage. Take care not to puddle materials and ensure even coverage. An even application is essential for gloss consistency. Use wet mil gauge to insure application is 4-5 mils WFT. Excess millage can result in product whitening and/or bubbling. (see individual product information sheet for more details on how to apply BDC 9500 CRU). Allow to cure 48 hours minimum before opening to traffic.

**Application Equipment**

**Brush / Roller**

Use 1/4" phenolic core rollers and professional quality, medium stiff natural bristle brushes.

**Trowel**

Use steel finishing trowel or epoxy mortar power trowel.

**Cleanup**

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

**Safety**

MSDS (Material Safety Data Sheets) must be read and understood by personnel responsible for supervision and installation of the B.D. Classic Materials. All applicable federal, state, local, and particular plant safety guidelines must be followed during the handling and 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.

**Material Storage**

Store materials in a temperature controlled environment (50°F to 90°F) and out of direct sunlight. Keep resins, hardeners, and solvents separated from each other and away from sources of ignition. One year shelf life is expected for products stored between 50°F to 90°F.

**Maintenance**

Quartz Mortar System should be inspected every 2-3 years and resealed as necessary. Reseal system by lightly sanding surface and giving it a solvent bath of acetone or xylene. Reseal with BDC 9500 CRU thinned with 15% acetone.

**TYPICAL PHYSICAL PROPERTIES:**

**UNFILLED**

Color	Standard Colors off B.D.C. Color Chart
Tg, °F	131
Hardness (Shore D) ASTM D 2240	83
Compressive Strength, psi	13,200
Compressive Modulus, thousand psi	318
Tensile Strength, psi ASTM D 638	7,800
Tensile Modulus, thousand psi	352
% Elongation	7.9
Flexural Strength, psi ASTM D 790	14,000
Flexural Modulus, thousand psi	396

**WITH AGGREGATE**

Compressive Strength, psi after 24 hrs	11,300
% of 7 Day Compressive Strength @ 24 hr	89
Compressive Strength, psi @ 7 days ASTM C 579	12,800
Tensile Strength psi @ 7 days ASTM C 307	2,100
Tensile Modulus, thousand psi @ 7 days	122
Flexural Strength, psi @ 7 days	4,300
Flexural Modulus, thousand psi @ 7 days	2,300