



## Product Information

### **BDC 3770**

### **100% Solids Epoxy Novolac Coating**

#### **Description**

BDC 3770 is BDC's 100% Solids, multi-functional Novolac epoxy system. It is designed for strong chemical and solvent resistance and constant temperature exposure of greater than 225°F. BDC 3770 can withstand a constant immersion of 70% Sulfuric Acid for 90+ days before failure and 50% Sodium Hydroxide immersion for 30 days. It is available pigmented or as a clear coat.

#### **Uses**

Some commonly used areas for BDC 3770 are containment areas, manufacturing plants, mechanical rooms, warehouses, tank linings, where a high level of chemical and solvent resistance is required, commercial kitchens, waste treatment plants, and high-temperature areas of food and beverage processing plants. It can be used as a clear coat over decorative color quartz or mixed with aggregate for use as a mortar for overlays or repairs for concrete.

#### **Advantages**

- 100% Solids
- High Heat Resistance
- Strong Chemical Resistance
- Meets USDA Criteria
- High Strength
- Low Odor
- High-Build
- Superior Adhesion

#### **Coverage**

Coverage will vary depending on condition of surface and desired thickness.

As a Coating:

100-300 sf per gallon

For Epoxy Mortar:

1 gallon of epoxy mixed with 5 gallons of sand will yield approximately 3 to 4 gallons of mortar.

#### **Packaging**

1 1/2 gallon kits  
3 gallon kits  
15 gallon kits

#### **Colors**

Clear, Black, White, or any Standard BDC Color

#### **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 for an epoxy flooring installation. 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.

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. BDC bears no responsibility for failures due to any of the above conditions.

#### **Surface Preparation**

Over Concrete Surfaces: Shotblasting or diamond grinding is the preferred method for preparing the concrete. Proper preparation should achieve a clean, porous, and uniform surface that feels like 50 grit sandpaper that will allow the product will soak in and properly bond.

Over existing BDC Epoxy: Sand the surface with a floor buffer and 100 grit sandpaper. Remove debris and wipe with acetone just before new application. Always test a small area to ensure adhesion prior to



application.

### **Mixing**

As a Coating: Premix each component separately. Mix 2 parts A with 1 part B, by volume, into a clean container. Mix thoroughly with a low speed (400-600 rpm) drill motor for 3-4 minutes. Make sure to scrape the sides and bottom of the container during mixing. The product may be thinned with acetone in which case it must be applied thinly enough to allow solvent to escape (minimum 300 sf per gallon). After mixing is completed, remove from container within 5 minutes as epoxy will begin to generate heat. Spread immediately onto the floor, as product is spread out you will have longer working time (10-15 minutes at 70°F).

For an Epoxy Mortar: Mix 2 to 5 parts of a washed and kiln dried aggregate, by volume, to 1 part of mixed BDC 3770 and mix until uniform in consistency.

### **Application**

Primer: Prime the surface using BDC 1200, Vapor Seal, 3300, or 3100 epoxies (Read individual product information sheets). The 3770 may also be used as a primer when thinned 10-20% with acetone. Primer coat should be applied thinly and worked into the surface to help seal avoid pin holes.

As a Coating: Apply BDC 3770 within 24 hours after the primer coat. Immediately after mixing, spread a strip of the batch onto the surface along the edges where it will be "cut in" using a brush. Pour the remaining material near the "cut in" area and spread evenly using a trowel or squeegee and back roll using a 1/4" nap non-shedding roller. A notched trowel or squeegee will help regulate the thickness and a porcupine roller will help to release trapped air and minimize bubbles. Depending on the look, thickness, chemical and abrasion resistance desired, 1 to 2 coats may be applied. A non-skid surface can be achieved by broadcasting and/or back rolling a washed and kiln dried aggregate into the coating.

For an epoxy mortar: Prime the area with a coat of BDC Vapor Seal, 1200, 3100, or 3300 epoxies. While tacky, apply the prepared mortar using a trowel. If waiting longer, make sure to broadcast silica sand into wet primer coat (1lb/2sf) to ensure intercoat adhesion. Make sure to sweep or blow off excess sand before application of the mortar coat.

### **Limitations**

- Do not apply at temperatures below 50°F or above

95°F.

- Do not let mixed product sit in bucket for prolonged period of time or it will become very hot and unusable.
- Do not apply over concrete with Moisture Vapor Emissions above 4.5lbs/1000 ft<sup>2</sup>/24hr.
- For interior use only unless protected by a pigmented UV resistant coating.
- Concrete must be cured for a minimum of 28 days.
- Solvents added to thin such as acetone will make product combustible or flammable in which case be aware of sparks or open flame.
- If solvent is added, the product must be applied thinly (300+ ft<sup>2</sup>/gal to allow the solvent to escape and proper curing to occur.
- Shelf Life of this material is 1 year from the date of manufacture. (See batch number for manufactured date)
- BDC recommends the use of angular slip resistant aggregate in all coatings or flooring systems that may be exposed to wet, oily or greasy conditions. It is the contractor and end users' responsibility to provide a flooring system that meets current safety standards.

### **Clean Up**

Uncured material can be removed with a solvent. Cured material can only be removed mechanically. All empty containers must be disposed of according to local, state, and federal regulations.

### **Warranty**

BDC Epoxy Systems, Inc. guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to either the return of the goods and repayment of the purchase price or replacement of the defective material at the option of the seller. BDC makes no other warranty, expressed or implied, and all warranties of merchantability and fitness for a particular purpose are hereby disclaimed. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product. Manufacturer shall not be liable for material used outside of its shelf life. For product dating, please refer to the batch number on the product or contact BDC.



**PHYSICAL PROPERTIES AND CHEMICAL RESISTANCE**

DRY TIME	10 HRS @ 77°
PENCIL HARDNESS	3H
IMPACT RESISTANCE, IN-LB	35/12
DIRECT/REVERSE	
ABRASION RESISTANCE	0.03
1000 CYCLE, WT LOSS GRAMS	
CHEMICAL RESISTANCE	
SULFURIC ACID	
10%	>90 DAYS
30%	>90 DAYS
50%	>90 DAYS
70%	>90 DAYS
HYDROCHLORIC	
10%	24 HOURS
SODIUM HYDROXIDE	
50%	30 DAYS
PHOSPHORIC ACID	
10%	24 HOURS
30%	24 HOURS
AMMONIA	
30%	30 DAYS
ETHANOL, 100%	3 HOURS
METHANOL	3 HOURS
CELLOSOLVE	24 HOURS
ACETONE	24 HOURS
MEK	<3 HOURS
TRICHLOROETHYLENE	3 DAYS
TOLUENE	24 HOURS
JP-4 JET FUEL	>24 HOURS
LACTID ACID 10%	7 DAYS
ACETIC ACID 10%	< 24 HOURS

