Product Information

BDC 1070 ***Flex Fill – Flexible Joint Filler & Crack Bridging Epoxy***

Description

BDC 1070 Flex Fill is a 100% solids, flexible, waterproof epoxy joint filler. It is the thicker-bodied companion to BDC 1065 Flexible Floor Coating: where BDC 1065 is designed as a coating, BDC 1070 is formulated with a higher viscosity for filling and bridging control joints, saw cuts, and cracks in concrete floors. Its elongation allows it to move with the slab, and the flexibility of this product is an inherent property that will be retained for the life of the repair in both warm and cold weather.

BDC 1070 is well suited for joints and cracks subject to surface movement, thermal cycling, and vibration that may defeat a more rigid filler. Its "rubberized" cure absorbs the impact from heavy loads and steel-wheeled traffic crossing the joint. For wider joints, larger cracks, and bigger repair areas, silica sand can be added to the mixed material to thicken the product and extend its yield.

Uses

- **Control, saw-cut, and construction joint filling in concrete floors**
- **Expansion joint and crack filling**
- **Crack bridging and crack isolation repair**
- **Filling joints and cracks prior to installing epoxy floor coatings**
- **Warehouses, loading docks, machine shops, manufacturing and mechanical rooms**
- **Larger repair areas when thickened with silica sand**
- **Spalls, cavities, and cracks when thickened with fumed silica**
- **Joints on ramps and slopes**

Advantages

- **Thicker viscosity for joint and crack filling**
- **Extreme flexibility, tough, abrasion resistant**
- **Remains flexible at low temperatures**
- **Waterproof, Fluid-Proof**
- **100% Solids, VOC < 5 g/l**
- **Simple 1:1 mix ratio by volume**
- **Accepts silica sand for wider joints and larger repairs**
- **Oversized resin pail allows room for mixing and added aggregate**
- **Superior Adhesion**
- **Resistant to the impact of heavy loads and steel wheeled traffic**

Coverage

BDC 1070 is designed primarily as a joint and crack filler. One gallon of mixed, unfilled material yields 231 cubic inches.

As a joint filler, BDC 1070 can be filled up to ½" wide x 1" deep.

For lineal foot coverage per gallon of unfilled material, cross reference the depth with the width.

	Width			
DEPTH		¼"	3/8"	½"
	½"	154'	102'	77'
	1"	77'	51'	38'

For joints wider than ½" or deeper than 1", a filler such as silica sand or Cab-O-Sil (fumed silica) can be added to the mix.

Colors

Available in Concrete Gray and Stone Gray. Custom colors are available with a minimum order quantity. Contact BDC for details.

Packaging

1-gallon kit: ½ gallon Part A (resin) in a 2-gallon pail, ½ gallon Part B (hardener) in a ½-gallon plastic jug
2-gallon kit: 1 gallon Part A (resin) in a 3.5-gallon pail, 1 gallon Part B (hardener) in a 1-gallon plastic jug

The resin is packed in an oversized pail so the hardener can be added and mixed directly in the resin container. The extra headspace provides room for thorough mixing and for adding silica sand or other aggregate.

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 ft²/24hr period or less is an acceptable amount of vapor pressure for an epoxy flooring installation.

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

Joints and Cracks: The most common reason for failure is lack of preparation. For maximum durability the surface must be dry and free of dirt, oil, chalk, paint, debris, and other foreign matter. All curing compounds or previously applied sealers must be removed and the joint should be cleaned out using oil-free compressed air.

Use of a diamond blade or crack chaser to prepare/draw out preexisting cracks or to open up the joint is highly recommended to ensure proper adhesion.

Joints: Grind out the joint with a crack chaser or diamond blade to expose clean, sound concrete on both sides. For deep joints, install a backer rod or compacted dry silica sand to set the fill depth, leaving an epoxy depth of at least 1" or twice the joint width, whichever is greater.

Working Time

Pot life is 25 minutes (8 oz. / 250 g at 77°F). Large batches of epoxy will cure much faster in hot weather. Mix only what can be placed promptly.

Application

Mixing: Mix 1 part A with 1 part B by volume. Mix the epoxy with a slow speed drill with a mixing paddle attachment. Blend for 2 to 3 minutes. Carefully scrape the sides and bottom of the pail during mixing.

As a joint/crack filler: After mixing thoroughly, immediately pour the blended mixture into the prepared joints and cracks approximately 2/3 of the full depth. Allow the epoxy to settle for 1 hour, then slightly overfill the remainder of the joint/crack. Cut or grind the joint flush within 24 hrs of application to ensure a level surface. Alternatively, fill to approximately 1/16" below the concrete surface. This keeps the filler below wheel contact and eliminates the need to cut or grind the filler after it cures. Grinding the joint during surface preparation is still required.

With silica sand: For wider joints, larger cracks, and larger repair areas, first mix Part A and Part B completely, then slowly add clean, dry silica sand while continuing to mix until the desired consistency is reached. Place the filled material and cut or grind flush within 24 hrs as above.

With fumed silica: For spalls, cavities, cracks, and joints on ramps or slopes, add fumed silica (such as Cab-O-Sil) to the mixed epoxy until it reaches a trowelable, non-sag consistency. Trowel into the repair area and finish level with the surrounding concrete.
See above chart for coverage.

Drying Time

Dry to touch in 10-12 hours @ 77°F, 50% humidity. Recoat within 24 hours. If a coating is to be applied after the initial 24 hr window, sand the surface and wipe it with a suitable solvent (i.e. acetone).

Allow light foot traffic after 24 hours. Allow vehicular and other heavy traffic after 72 hours.

All times are based on 77˚F and 50% humidity. Cooler temperatures will increase drying time. Warmer temperatures and larger masses of material will decrease drying time.

Limitations

- **Do not apply at temperatures below 50˚F. Applications above 90˚F are not recommended.**
- **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 ft²/24hr.**
- **For interior use only unless protected by a pigmented UV resistant coating.**
- **Concrete must be cured for a minimum of 28 days.**
- **Shelf Life of this material is 1 year from the date of manufacture. (See batch number for manufactured date)**
- **Store in a dry area between 50˚F and 95˚F. Protect from direct sunlight. Keep container closed when not in use.**

Clean Up

Remove uncured epoxy from tools and equipment with a suitable solvent. Cured material may only be removed mechanically. All empty containers must be disposed of according to local, state, and federal regulations.

Warranty

BDC Epoxy Systems guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event that 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 shelf life. For product dating, please refer to the batch number on the product or contact BDC.

Technical Data for BDC 1070

Chemical Composition	**Urethane Modified Bisphenol A/F Resin w/ Modified Aliphatic Amines**
Mix Ratio (by volume)	**1 Part A : 1 Part B**
Viscosity	**3,000 cps**
Shore D Hardness (ASTM D2240)	**52**
Cross Hatch Adhesion (0-Worst, 5-Best) (ASTM D 3359)	**5**
Impact Resistance, inch-lbs Direct/Reverse (ASTM D 2794)	**>160 / >160**
Gel Time	**45 @77°F (150 mass/mins.)**
Compressive Strength	**N/A**
Tensile Strength	**2000 psi (@70°F)**
Tensile Elongation	**70-100% (@70°F)**
Dry to Touch	**10-12 hrs @77°F**
Flexural Strength	**N/A**
Pot life	**25 minutes (8oz. (250g) at 77°F)**
VOC	**< 5 g/l**