



Bond 45

Concrete Repair and Grout Compound

Rev. 11/20

■ Description

Bond 45 is a rapid curing heavy duty concrete repair product designed to fill pin holes and imperfections on slabs before polishing, repair and renew cracks and spalls on commercial, retail and industrial concrete floors, repair damaged control joints, fill anchor bolt holes and repair defects on garage floors before coating.

■ Uses/Benefits

Bond 45 is typically polishable in 45 minutes or less, 100% solids and zero VOC's. Traffic ready in less than an hour. The open pores of cracks and spalls in concrete are easily penetrated due to the very low viscosity and excellent bonding properties of **Bond 45**. This low viscosity material easily and uniformly accepts pigments for consistent color matches. Variable grades of silica sand and larger aggregate can and should be added in most cases to best blend with existing floor surfaces and finishes. Local dry powder cement and cement powder colorants can also be used to aid in blending finished product to existing floors. Cures in extreme temperature conditions, including freezers. Very high shore D for structural rigidity. Aromatic formulation is safer for handlers, installers, transporters, and employees.

■ Technical Data

Test data shown are typical values obtained under laboratory conditions. Some variations could be found under varied conditions in the field such as temperature, humidity and type of substrate. Foot traffic is generally acceptable within minutes. Complies with LEED® IEQ Credit 4.1. Once cured, this product is inert (chemically inactive) so it is safe to discard and is safe to use in areas subject to inspection for food safety.

Viscosity	ASTM 4016	A = 110 cps	B = 160 cps
Solids	100%		
VOC Content	0		
Mix Ratio	1:1		
Gel Time	ASTM D7997	5 Minutes	
Tack Free	74°F	5 - 6 Minutes	
Shore D Hardness	ASTM D-2240	70 to 73D	
Tensile Strength, psi	ASTM D-412 (7 days)	6150 psi	
Elongation	ASTM D-412	1 - 1.5%	
Compressive Strength	ASTM C579-18 (7 days)	11968 psi	
	+ Aggregate (7 days)	8070 - 9340 psi	
Adhesion to Concrete	ASTM D7234	890 psi/Concrete Failure	

■ Coverage Rates

1 Gallon = 128 ounces or 231 cubic inches.

1 Gallon = 5.8 (22 oz.) cartridges.

Grouting yields will vary on the surface of the floor and imperfections. 600 square feet per gallon is a good average to use and it is recommended to test an inconspicuous area first.

Adding aggregate to mixed product will produce higher yields when repairing holes, spalls, damaged control joints, etc.

■ Limitations/Storage/Shelf Life

Bond 45 is designed for interior use only. Product may discolor when exposed to UV rays. Store warm and dry. Gassing will occur in the presence of moisture on the surface, in aggregate that is added and local humidity. Ensure all areas and aggregate are as dry as possible. Do not allow **Bond 45** to freeze or the chemicals may coagulate and then require superheating to become homogenous. Best practice: use a blanket of compressed nitrogen to minimize oxidation in any opened container before tightly replacing lid. Best temperature range for storage is between 60°F to 85°F. This very rigid material has minimal elongation properties so movement of the concrete may cause cracks to the sides of the repairs. Six (6) month shelf life in unopened original packaging.

■ Colors/Packaging

Standard color is VB Gray. Custom color matching is available for other stains, dyes, pigments, fillers and paint colors. Available packaging: 600 ml side by side cartridges, 2 gallon kits, 10 gallon kits and custom sizes per request.

■ Preparation

All areas must be clean and dry exposing open pores of concrete. Prep with dustless concrete grinders and saws with diamond blades and HEPA filtered vacuums. Or, hand prep with a hammer and a chisel. Remove loose areas back to solid concrete exposing clean open pores. Narrow deep cracks need to be blown and scraped out as best as possible and filled without aggregate unless the width will accept it. To fill surface imperfections before polishing, the first heavy cut with metal bonded diamonds should be completed, ensure the slab is dry and clean, ready for a grout coat of **Bond 45**.

■ Bulk Mixing

Pre-mix B side for 1 minute in 5 gallon containers with a paddle mixer set on low rpm's, adding pigment if necessary. In 1 gallon containers, shake vigorously for 1 minute after adding pigment, if not pre-tinted. Then mix equal parts A and B into separate container and mix for 30 seconds with paint stick or paddle mixer. The very thin viscosity makes this mixing step very easy and efficient. Then add aggregate and additional colorants as necessary and place. Keep caps and lids on buckets and jugs at all times when not mixing to protect the Bond 45 from humidity. Best practice: use a blanket of compressed nitrogen to minimize oxidation in any opened container before tightly replacing lid or cap.

■ Cartridges

Shake cartridges for 30 seconds to 1 minute before dispensing to re-blend the mixture of chemicals and color. Remove cap and install flow restrictor, securely attach mixing nozzle, install cartridge into tool, hold upright and slowly dispense material to the end of the nozzle, direct nozzle down into waste container and dispense small amount of material to ensure cartridge is equalized and color is consistent. Proceed to fill cracks, etc. **Note:** Material may cure within the nozzle if dispensing is stopped for too long, more than 20 – 30 seconds. When transferring locations, it is recommended to dispense small amounts into a waste container to avoid curing within the nozzle.

■ Installation

Completely fill cracks, spalls, surface imperfections by slightly overfilling. Add aggregate and colorants as desired before **Bond 45** has reacted. Work in small batches due to fast curing times. **Bond 45** chemicals cross link and create heat. More volume and higher ambient temperatures create more heat and a faster cure. Adding aggregate acts as a heat sink and slows cure times. In addition, colder temperatures and product will slow cure times. Once cured, grind flush to the surface causing the least amount of scratching on surrounding areas. Removal of Bond 45 when used as a grout coat is best done with the next cut of metal bonded diamonds, typically within 45 minutes after placement depending on conditions. Spall and crack repairs may be ready to grind and finish in 30 minutes. Always test in inconspicuous areas.

■ Clean Up/Safety

Cured material is inert and may be disposed of as normal. Unmixed product should be mixed and fully cured before disposal. Residual fluids and soiled items should be disposed of per local hazmat regulations. Use all chemical products in well ventilated areas. Handle and wear proper safety attire for protection per SDS documents for this product.

■ Warranty

VeloBond, Inc. solely and expressly warrants that its products shall be free from defects in materials and workmanship for one (1) year from the date of purchase. Unless authorized in writing by an officer of VeloBond, no other representations or statements made by VeloBond or its representatives, in writing or orally, shall alter this warranty. VeloBond makes no warranties, implied or otherwise, as to the merchantability or fitness for ordinary or particular purposes of its products and excludes the same. If any VeloBond product fails to conform with this warranty, VeloBond will replace the product at no cost to Buyer. Replacement of any products shall be the sole and exclusive remedy available and buyer shall have no claim for incidental or consequential damages. Any warranty claim must be made within one (1) year from the date of the claim breach. VeloBond does not authorize anyone on its behalf to make any written or oral statements which in any way alter VeloBond's installation information or instructions in its products literature or on its packaging labels. Any installation of VeloBond products which fails to conform with such installation information or instructions shall void this warranty. Product demonstrations if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of VeloBond's products for the Buyer's intended purposes.