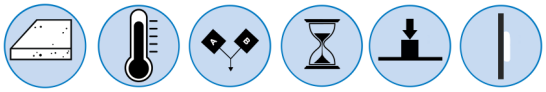
CRACKBOND®
EPOXY REPAIR PASTE



Product Description

CRACKBOND® EPOXY REPAIR PASTE is a two-component, moisture insensitive, high modulus, high strength, structural epoxy paste adhesive available in cartridge and bulk systems. Its specially formulated non-sag properties are perfect for large overhead and vertical repairs. It may be used in temperatures between 40 °F and 110 °F (4 °C and 43 °C).

General Uses & Applications

- Pick-proof sealant in schools, prisons, hospitals and other security applications
- General adhesive/filler for overhead and vertical repairs
- Ideal as a bonding agent for building materials including, concrete, block, stone, steel and other substrates
- Capping paste and injection port adhesive for pressure injection
- High-build, non-sag patching material for non-moving cracks and spalls

Advantages & Features

- High-build and easily trowelable
- Hi-mod formula cures stronger than concrete
- Superior hardness for tamper resistance
- Available in cartridges and bulk units
- Easy mix formula in a 1:1 ratio by volume
- Proudly made in the USA

Availability: Adhesives Technology Corp. (ATC) products are available online and through select distributors, providing all your construction needs. Please contact ATC for a distributor near you or visit www.atcepoxy.com for online purchasing options or to search for a distributor by zip code.

STANDARDS & APPROVALS

ASTM C881-15, AASHTO M235

Type I, II, IV & V Grade 3 Class B* & C

*Approved for Class B at temperatures ≥ 55 °F (13 °C)

Color & Ratio: Part A (Resin): White, Part B (Hardener): Dark Gray, Mixed: Light Gray. Mix Ratio: 1:1 by volume.

Storage & Shelf Life: For best results, store between 40 °F (4 °C) and 90 °F (32 °C). Shelf life is 24 months when stored in unopened containers in dry conditions.

Installation: Manufacturer's Printed Installation Instructions (MPII) are available within this Technical Data Sheet (TDS). Due to occasional updates and revisions, always verify that you are using the most current version of the MPII. In order to achieve maximum results, proper installation is imperative.

Clean Up: Always wear appropriate personal protective equipment such as safety glasses and gloves. Clean uncured materials from tools and equipment using a mild solvent. Cured material can only be removed mechanically.

Limitations & Warnings:

- Do not thin with solvents, as this will prevent cure
- New concrete should be a minimum of 21 days old
- Not intended for repairing cracks subject to movement; repairs should be made to the cracked element to eliminate the cause of the cracking prior to usage

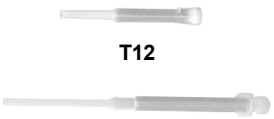
Safety: Please refer to the Safety Data Sheet (SDS) for CRACKBOND EPOXY REPAIR PASTE published on ATC's website or call for more information at 1-800-892-1880.

Specification: The concrete repair adhesive shall be a two-component, 1:1 mix ratio epoxy system supplied in premeasured containers. When cured 7 days and at a minimum temperature of 75 °F (24 °C), shall have a minimum compressive yield strength of 13,850 psi (95.5 MPa) and a minimum compressive modulus of 743,300 psi (5,125 MPa) per ASTM D695. The concrete repair adhesive shall be EPOXY REPAIR PASTE from Adhesives Technology Corp., Pompano Beach, Florida.

ORDERING INFORMATION

TABLE 1: CRACKBOND EPOXY REPAIR PASTE Adhesive, Dispensing Tools and Mixing Nozzles

Package Size	21.2 oz. (627 ml) Cartridge	102 oz. (3.0 L) Bulk Unit Gallon
Part #	A22-ERPN	BUG-ERP
Manual Dispensing Tool	TM22HD	N/A
Pneumatic Dispensing Tool	TA22HD-A	
Case/Kit Qty.	12	1
Pallet Qty.	576	75 kits
Pallet Weight (lbs.)	1,526	948
Recommended Mixing Nozzle	T12	N/A
Alternate Mixing Nozzle	T34HF	N/A



T12

T34HF

TM22HD

A22-ERPN

BUG-ERP

MATERIAL SPECIFICATION

TABLE 2: CRACKBOND EPOXY REPAIR PASTE performance to **ASTM C881-15**[1,2]

Property	Cure Time	ASTM Standard	Units	Sample Conditioning Temperature[3]		
				40 °F (4 °C)	55 °F (13 °C)	75 °F (24 °C)
Gel Time - 60 Gram Mass	----	C881	min	244	230	68
Pot Life[4,5]	----	----	min	18		
Tack-Free or Open Time[4] @ 75 °F (24 °C)	----	D2377	hr	2 - 3		
Consistency or Viscosity	----	C881	----	Non-sag paste		
Compressive Yield Strength	7 day	D695	psi (MPa)	4,790 (33.0)	13,760 (94.9)	13,850 (95.5)
Compressive Modulus			psi (MPa)	398,100 (2,745)	693,700 (4,783)	743,300 (5,125)
Tensile Strength[6]		D638	psi (MPa)	----		3,600 (25)
Tensile Elongation[6]			%	----		0.4
Shore D Hardness[4]	1 day	D2240	----	85		
Bond Strength Hardened to Hardened Concrete	2 day	C882	psi (MPa)	2,180 (15.0)	2,650 (18.3)	2,180 (15.0)
	14 day			3,000 (20.7)	3,130 (21.6)	2,630 (18.1)
Bond Strength Fresh to Hardened Concrete				1,960 (13.5)		
Bond Strength Fresh Concrete to Steel				1,890 (13.0)		
Heat Deflection Temperature	7 day	D648	°F (°C)	138 (59)		
Water Absorption	14 day	D570	%	0.23		
Linear Coefficient of Shrinkage	----	D2566		0.0007		

1. Results based on testing conducted on a representative lot(s) of product. Average results will vary according to the tolerances of the given property.
2. Results may vary due to environmental factors such as temperature, moisture and type of substrate.
3. Approved for Class B at temperatures ≥ 55 °F (13 °C).
4. Property not referenced in ASTM C881.
5. Pot life is measured as the workable and applicable time of 102 fl. oz. (3.0 L) when mixed at 75 °F (24 °C). Pot life lengthens to 21 minutes when mixed in a 500 gram mass @ 75 °F (24 °C).
6. Tensile & Elongation are optional requirements for ASTM C881 Grade 3.

TABLE 3: EPOXY REPAIR PASTE **CURE SCHEDULE**[1,2,3]

Base Material Temperature °F (°C)	Working Time	Crack Injection Port Adhesion Cure Time[4]	Full Cure Time
75 (24)	75 min	4 hr	24 hr

1. Working and full cure times are approximate and are based on cartridge/nozzle system performance.
2. Application Temperature: Substrate and ambient air temperature should be from 40 - 110 °F (4 - 43 °C).
3. When ambient or base material temperature falls below 70 °F (21 °C), condition the adhesive to 70 - 75 °F (21 - 24 °C) prior to use.
4. Crack Injection Port Adhesion Cure Time is based on the amount of time it takes to be able to maintain adhesion during epoxy injection.

INSTALLATION INSTRUCTIONS (MPII)

Surface Preparation

Old concrete must be clean and profiled or textured. Remove all dirt, oil, debris, wax grease or dust. New concrete should be a minimum of 21 days old. Prepare the surface by rough-grinding, scarifying, bush hammering or by using other equipment that will give a roughened profile. A roughened surface is imperative for good adhesion. Always be sure the bonding surfaces are prepared in advance before mixing product. Mix only enough EPOXY REPAIR PASTE that can be used within the workable time or pot life (see Table 2). When bonding two surfaces together, make sure to completely fill all the gaps between the mating surfaces. **Caution**: Always wear proper personal protective equipment, such as safety goggles, dust mask/respirator and gloves while sanding or grinding (see Safety Data Sheet).

Cartridge Preparation

When the work environment or substrate falls below 70 °F (21 °C) condition the product to 70 - 75 °F (21 - 24 °C) prior to use. Cold product may become too thick. Product that is too warm will react much faster than normal.

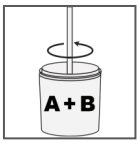
CAUTION: Check the expiration date on the cartridge to ensure it is not expired. **Do not use expired product!** Remove the protective cap from the adhesive cartridge and insert the cartridge into the recommended dispensing tool. Before attaching mixing nozzle, balance the cartridge by dispensing a small amount of material until both components are flowing evenly. For a cleaner environment, hand mix the two components and allow waste to cure prior to disposal in accordance with local regulations.

After the cartridge has been balanced, confirm the internal mixing element is in place and screw on the proper Adhesives Technology mixing nozzle to the cartridge (see Table 1). Do not modify mixing nozzle prior to dispensing adhesive.

Dispense the initial amount of material from the mixing nozzle into a disposable container according to local regulations. The product should be a uniform light gray color with no streaks. NOTE: The adhesive must be properly mixed in order to perform as published. **CAUTION:** When changing cartridges, never re-use nozzles. A new nozzle should be used with each new cartridge and steps 1 - 3 should be repeated accordingly.

Bulk Mixing Instructions

When the work environment or substrate falls below 70 °F (21 °C) condition the product to 70 - 75 °F (21 - 24 °C) prior to use. Thoroughly stir Part B with a Jiffy mixing paddle or similar before mixing Parts A and B together. NOTE: Cold product may become too thick. Product that is too warm will react much faster than normal.



1. Place the total contents of Part “B” (hardener) into the Part “A” pail (resin) OR proportion equal parts by volume of both Part “A” and Part “B” into a clean pail. Be sure that the components are mixed at an exact 1:1 ratio by volume.
2. Mix thoroughly with a low speed drill (400 – 600 rpm) with a Jiffy mixing paddle or similar. Carefully scrape the sides and the bottom of the container while mixing. Keep the paddle below the surface of the material to avoid entrapping air. Proper mixing will take at least 3 minutes and when well mixed the material will be free of streaks or lumps.
3. Mix only the amount of material that can be used before the pot life expires (see Table 2).

Spall Repair Preparation

Cut into the sound concrete using a grinder with a diamond blade or tuck point diamond grinding wheel and prepare the area to be repaired as noted above under Surface Preparation. Place the mixed neat EPOXY REPAIR PASTE into the repair area and smooth out with a trowel to create a smooth surface.

Capping Paste for Structural Crack Injection

1. Place and secure injection ports, or port bases, with the EPOXY REPAIR PASTE taking care not to leave any pinholes, noting that the port spacing should be approximately 6 - 12 in. (152 – 305 mm) apart. NOTE: Do not allow the epoxy to block the passage between the port and the crack face.
2. Place additional EPOXY REPAIR PASTE between the ports making sure the entire crack is sealed off anywhere it is visible and accessible and make sure the ports are securely fastened to the concrete so they will not leak when injected under pressure.
3. Allow the EPOXY REPAIR PASTE to cure a minimum of 4 hours at 75 °F (24 °C) before injecting the crack with an ATC crack injection adhesive such as CRACKBOND LR-321.

INSTALLATION INSTRUCTIONS (MPII)

Pick-Proof Sealant

Surface or void must be clean and sound prior to application. Remove all dirt, oil, debris, grease, loose paint or dust. Use sandpaper or a wire brush to roughen any smooth bonding surface. Apply an applicable size bead of material around the area to be sealed. A rounded edge spatula should be used for tooling when used in cracks or joints. For filling voids, dispense into deepest area first filling from the back to front until entire void is filled. In thinner cracks it may be necessary to use an additional flat mixing tool such as a putty knife to aid in working the adhesive deeper into the area to be repaired.