

## 1. Product Name

**Crackbond CSR** Concrete Crack and Spall Repair Product.

## 2. Manufacturer

Adhesives Technology Corp.  
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## 3. Product Description

### GENERAL DESCRIPTION

**Crackbond CSR** Crackbond CSR is a specially formulated very low viscosity two part hybrid polyurethane rapid cure concrete repair material. Its low viscosity offers deep penetration into concrete cracks providing a structural repair. The addition of aggregate makes a quality spall repair product that is open to traffic or floor grinding in less than one hour. The ultra fast set time of CSR allows minimum down time in the repaired area.

### BASIC USE

- Repair of interior and exterior hairline cracks
- Repair larger cracks using KILN-DRIED, Medium Grade silica sand (approx 30 mesh)

Repair of cracks or spalls in concrete floors

### COLOR

"A" Component (Resin): Amber

"B" Component (Hardener): Bluish Gray

Mixed: Initially Black then turns light Gray when cured

### VISCOSITY

"A" Component (Resin): 60 cps

"B" Component (Hardener): 60 cps

Mixed: 60 cps

### RATIO

Mix Ratio by Volume: 1:1 (A:B)

Mix Ratio Sand to Total Liquid is 2:1 by Volume

SHELF LIFE: 12 Months

### SIZE/PACKAGING

Cartridge Sizes: **Crackbond CSR** is available in:

- 9 oz. cartridges; part number A9-CSRHN
- 22 oz. cartridges ; part number A22-CSRN

The resin and hardener are uniformly dispensed from a dual cartridge system and mixed simultaneously through a mixing nozzle, providing contractors with a self mix delivery system.

Bulk Sizes:

- 2 Gallon Kit; part number: B2G-CSR

YIELD: 231 cubic inches per 128 fl. oz. (Gallon)

### Quick Selection Guide

Gel Time (75°)	2.5 minutes
Tack-free Time (75°)	12 minutes
Temperature Range	0°F – 115°F

### LIMITATIONS:

1. Because of the fast gel time, CSR is not recommended for applications where long working times are required.
2. CSR will yellow in exterior applications due to UV exposure. A solvent based stain or paint may be used to coat.

### Technical Data

Technical Data (Neat, no silica added)		
Properties	ASTM	Results
Compressive @ 78°F 1 hour	D695	4,900
Compressive @ 78°F 24 hour	D695	5269
Tensile, psi	D638	4,150
Elongation, %	D638	5
Die C Tear, pli	D624	243
Cured Density ( lbs / ft <sup>3</sup> )	-	68.7
Hardness, Shore D	D2240	70
Bond Strength	C882	1,894

Compressive strength is comparable with Silica Sand Mix.



## 5. Preparation and Installation

- Always be sure the cracks or spalls are prepared in advance before starting a new cartridge.
- Schedule dispensing to consume an entire cartridge at one time with no interruption of adhesive flow.
- **Concrete MUST BE COMPLETELY DRY.** Additional care should be taken to dry the concrete at temperatures and humidity below the atmospheric dew point, or when injecting into cracks below grade and/or below 32°F.
- New concrete should be fully cured, completely dry and free of movement. A dry diamond blade may be used to prepare cracks and create a clean surface for bonding. A wire brush or twisted wire wheel may be used to remove any loose concrete or dirt and blown out with compressed air. Cracks or spalls should be free of dust, dirt, oils and any other debris. Crackbond CSR can be "feathered" into an existing concrete surface.

**I.** Shake cartridge vigorously for 10 seconds, then stand cartridge upright for 1 minute.

**II.** Insert Cartridge into dispenser (see fig 1), then pry off Cap from top of cartridge by inserting flat head of screwdriver into slot and pry upward. (see fig 2) Cap can be re-inserted to save partially used cartridge. **IMPORTANT! Hold cartridge at a slightly upward angle (see fig 3)** from horizontal and slowly dispense a small amount of material into a disposable container until both materials flow evenly from cartridge. **Continue to hold at an UPWARD ANGLE** and install flow control then install mixing nozzle onto cartridge, secured by threading in a clockwise direction.

Fig 1

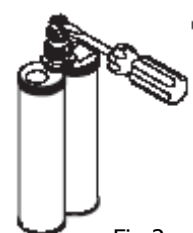
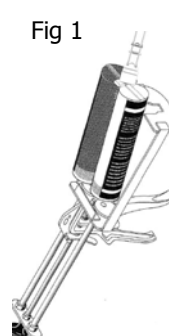


Fig 2

**III. Important! Air bubbles must be purged** prior to use. Point mixing nozzle straight up (see fig 4) and slowly apply pressure to the trigger moving the product up through the mixing nozzle until it reaches the tip. Next, point upward at 45° and dispense one full stroke into a disposable container. Important! Use the product by **dispensing with slow, steady, and complete strokes. Only use one mixing nozzle per cartridge!**

Fig 3

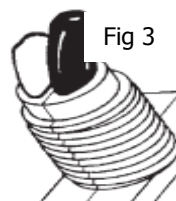


Fig 4

### Crack / Spall Repair

**Cartridge Systems:** In horizontal concrete slabs, inject directly into cracks by placing the mixing nozzle tip directly over the crack.

- Allow adhesive to penetrate into the crack and top-off as needed. Kiln dried Medium grade silica sand or dry floor grindings can be sprinkled on top of the CSR in the crack to add texture to closely match that of the existing concrete.
- It is important to keep adhesive flowing through the nozzle to prevent material from hardening. If material does harden in the nozzle, simply remove the hardened nozzle from the cartridge and replace with a new nozzle and repeat the balancing process (steps II and III above).
- Mixed adhesive will be tack-free in 12 – 20 minutes (at 75°F). Excess material may be removed immediately or within 20 to 30 min. after repair by scraping/shaving with a blade. If necessary, the crack surface may be ground smooth one hour after application.

**Bulk Systems:** Crackbond CSR can be mixed with kiln dried Medium Grade (approx 30 mesh) silica sand (part C) to form a repair mortar and then placed into the spalled area and smoothed out with a trowel. **For best results have all equipment and materials ready to go. Product must be mixed, placed, and finished in less than 3 minutes.** Thoroughly but quickly, mix Part "A" with Part "B" (with Jiffy Mixing paddle and drill motor at low speed) for 20 seconds MAX. While one person is still mixing A & B, have a second person swiftly add the sand. Make sure all sand is saturated or wetted out and there are no "clumps" on bottom of bucket. Rapidly scrape bottom and sides of pail to assure good mix. Pour and finish trowel immediately. (do not over trowel due to fast cure of product)



Note: Only mix the quantity that can be mixed and placed within 2-1/2 minutes. Repairs from minimum 1/2" up to a 3" lift is possible.

#### CLEAN UP

All equipment should be cleaned as quickly as possible. Crackbond CSR liquids can be cleaned by rinsing with a solvent such as MEK. Cured material will require mechanical cleaning procedures.

**SAFETY:** Crackbond CSR does not contain any flammable, carcinogenic, or hazardous materials, however, it is a mixture of Isocyanate prepolymer / catalyzed resin. As with all chemicals, care should be taken when handling the Crackbond CSR. Read Material Safety Data Sheet prior to use, and use the appropriate personal protective equipment (PPE) when handling. Adequate ventilation is recommended, especially in confined spaces.

**Sample Specification** – Repair adhesive shall be a two component, 1:1 ratio, 100% solids polyurethane system supplied in a two component side by side cartridge and dispensed through a static mixing nozzle supplied by the manufacturer. Adhesive must have a mixed viscosity of no more than 60 cps, a Shore D hardness of 70, with a tensile strength of 4,150 psi and an elongation of 5%. Adhesive shall have a working time of 2 minutes (75° F) and a tack-free time of 12 minutes (75° F). Shelf life must be a minimum of twelve months. Adhesive shall be Crackbond CSR by Adhesives Technology Corp., Pompano Beach, FL.

#### BUILDING CODES

Installation of **Crackbond CSR** must comply with applicable local, state and national code requirements.

#### SITE CONDITIONS

Material shall be delivered in original unopened containers and stored in a dry environment at a temperature between 65° and 90°F. CSR should be protected from exposure to water or moisture..

#### PRECAUTIONS

- Wear safety glasses
- Avoid prolonged contact with skin.
- Keep out of reach of children
- Do not take internally
- If Ingested and conscious, give large quantities of water or milk. Do not induce vomiting. Call a physician
- Eye contact. Flush with water for at least 15 minutes. Call a physician

#### 6. Availability and Cost

##### AVAILABILITY

**Crackbond CSR** is available through select distributors who can provide you with all of your construction needs. Please contact Adhesives Technology Corp. at (800) 892-1880 for a distributor near you.

#### COST

Cost information is available from your local distributor.

#### 7. Warranty

All warranties of the product listed herein, in the corresponding ATC catalog, and in any other current literature, expressed or implied, including warranties of merchantability and fitness for a particular purpose are specifically and expressly excluded, with the following exception: At its sole discretion, ATC will repair or replace any product which it considers to be defective in material or workmanship, excepting normal wear and tear within sixty (60) days from the date of purchase from ATC. ATC shall not be liable for any injury, loss or damage, direct, indirect, incidental or consequential or arising out of use of, misuse of, negligence, accident or inability to use any ATC product.

#### 8. Technical Services

For technical support contact Adhesives Technology Corp. at (800) 892-1880.

#### 9. Maintenance

None required.

#### 10. Filing System

Additional product information and specifications are available either online at [www.atc.ws](http://www.atc.ws) or contact Adhesives Technology at (800) 892-1880 to get copies mailed to you.

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