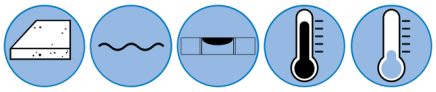
CRACKBOND® JF-311



Product Description

CRACKBOND® JF-311 is a 2-component, rapid curing, polyurea joint filler designed for heavy duty traffic and freezer applications. It is self-leveling, low viscosity, solvent free and flexible, allowing 10 - 15 % movement of installed joint width and can be used in temperatures between -40 °F to 120 °F (-40 °C to 49 °C). **This product is highly sensitive to moisture and cannot be used if any dampness is present!**

General Uses & Applications

- Treats moving cracks
- Used to fill interior/exterior control joints or new construction saw joints on horizontal concrete surfaces
- Protects joint edges from spalling due to wheeled traffic
- For best performance, the maximum joint width is 3/4 in. (19 mm) and joint depth should be a minimum of 3 times the width for industrial floor applications receiving heavy duty vehicle traffic
- Minimum depth can be reduced to 1/2 in. (12.7 mm), for foot traffic
- Exterior applications when minimal joint movement from thermal cycling will occur

Advantages & Features

- Keeps joints free of debris and provides a continuous surface for weight loading
- Treated joints can be opened to traffic in 90 minutes at 75 °F (24 °C)
- Self-leveling, low viscosity system
- Acceptable for use in USDA inspected facilities
- Wide application and service temperature range, including freezer applications
- Can be covered with primer/topcoat for aesthetics, but strict instructions must be followed (See Limitations & Warnings)

Availability: Adhesives Technology Corp. (ATC) CRACKBOND products are available through select distributors who can provide you with all your construction needs. Please contact ATC for a distributor near you or visit our website to search by zip code.

Color & Ratio: Part A (Resin): Amber, Part B (Hardener): Gray, Mixed: Concrete Gray, Mix Ratio: 1:1 by volume

Storage & Shelf Life: 18 months when stored in unopened containers in dry conditions. Store between 60 °F (15 °C) and 90 °F (32 °C).

Installation & Coverage: Manufacturer's Printed Installation Instructions (MPII) are available in this Technical Data Sheet (TDS) and online at www.atcepoxy.com. 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 protective equipment such as safety glasses and gloves during cleanup. Clean uncured materials from tools and equipment with mild solvents. Cured material can only be removed mechanically.

Limitations & Warnings:

- **Not for use in expansion joints**
- Color varies during cure and may change in exterior applications.
- Substrate and environment must be completely dry with no moisture present prior to application of CRACKBOND JF-311
- Cartridge balancing and crack repair instructions must be strictly followed
- Not intended for exterior or interior joints that are subject to high movement
- The repaired crack or control joint can be shaved or sanded in a minimum of 45 minutes at 75 °F (24 °C) and wait 24 hours prior to the application of primer
- A premium primer compatible with xylene or other solvent based coatings MUST be used prior to the application of any topcoat and follow the primer manufacturer's instruction for primer cure schedule
- It is recommended that the user check with coating manufacturer for compatibility with polyurea based products as ATC is not responsible for coating incompatibility
- A small test area of primer and topcoat must be conducted and observed for 7 days prior to full application

IMPORTANT: The user assumes all risks when applying a topcoat without first applying a previously tested primer. It is recommended to first try a small test area to confirm compatibility and performance. Cartridge preparation, crack repair and subsequent finishing techniques must be done according to the steps and the directions in the MPII.

Safety: Please refer to the Safety Data Sheet (SDS) for CRACKBOND JF-311 published on our website or call ATC for more information at 1-800-892-1880.

In-Service Temperature Range: CRACKBOND JF-311 will perform in temperatures from -40 °F to 120 °F (-40 °C to 49 °C).

Revision 9.0

JF-311

Polyurea Joint Filler

Joint Treatment

Specification: Joint filler material shall be a two component, 1:1 ratio, solvent free polyurea system. The polyurea material must have a tensile strength of 1,200 psi (8.3 MPa) and an elongation of 82%, per ASTM D412. Cured adhesive shall have a Shore A hardness of 75 – 80 per ASTM D2240. Adhesive shall be CRACKBOND JF-311 from Adhesives Technology Corp., Pompano Beach, Florida.

ORDERING INFORMATION

TABLE 1: CRACKBOND JF-311 Adhesive, Dispensing Tools and Mixing Nozzles[1,2]

Package Size	8.6 oz. (254 ml) Cartridge	21.2 oz. (627 ml) Cartridge	10 Gallon (38 L) Kit
Part #	A9-JF311 12PK	A22-JF311N	B10GM-JF311
Manual Dispensing Tool	TM9HD	TM22HD	N/A
Pneumatic Dispensing Tool	N/A	TA22HD-A	Pump[3,4]
Case Qty.	12	12	1
Pallet Qty.	1,116	576	12 kits
Pallet Weight (lbs.)	1,058	1,169	1,178
Recommended Mixing Nozzle	T12	T12	T12

1. Call for bulk packaging availability and lead times.
2. One mixing nozzle per cartridge is packaged with 8.6 oz. and 21.2 oz. sizes.
3. For bulk dispensing pumps, contact ATC for recommended manufacturers.
4. Assure proper fit of equipment. Contact ATC for further instructions.

A9-JF311 12PK

A22-JF311N

T12

TM9HD

TM22HD

TA22HD-A

One tool, dual grip configurations

MATERIAL SPECIFICATION

TABLE 2: CRACKBOND JF-311 performance to **ASTM C881-14**[1,2,3]

Property	Cure Time	ASTM Standard	Units	Sample Conditioning Temperature 75 °F 24 °C
Gel Time - 60 Gram Mass[4]	----	C881	mins	3
Tack Free Cure Time[5] (30 mil Thin Film)	----	D2377	mins	28
Mixed Viscosity[6]	----	M2393	cP	500
Pot Life[5,7]	----	----	mins	2.5
Tensile Strength	7 day	D412	psi (MPa)	1,200 (8.3)
Tensile Elongation			%	82
Bond Strength	2 day	C882	psi (MPa)	400 (2.8)
Shore A Hardness	----	D2240	----	75 - 80
Adhesion to Concrete	----	D4541	psi (MPa)	275 (1.9)

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. Full cure is listed above to obtain the give properties for each product characteristic.
3. Results may vary due to environmental factors such as temperature, moisture and type of substrate.
4. Gel time may be lower than the minimum required for ASTM C881.
5. Property not referenced in ASTM C881.
6. Mixed viscosity measured at 30 seconds.
7. Pot life is measured as the workable and applicable time of 1.0 gallon (3.8 L) when mixed.

TABLE 3: CRACKBOND JF-311 **CURE SCHEDULE**[1,2,3]

Base Material Temperature °F (°C)	Working Time	Trim/ Shave Time	Full Cure Time
0 (-18)	5 mins	6 hrs	48 hrs
75 (24)	3.5 mins	45 mins	24 hrs
120 (49)	1.5 mins	20 mins	12 hrs

1. Working and full cure times are approximate, may be linearly interpolated between listed temperatures and are based on cartridge/nozzle system performance. Working time is based on material conditioned to 75 °F (24 °C).
2. Application Temperature: Substrate and ambient air temperature should be from -40 to 120 °F (-40 to 49 °C).
3. When ambient or base material temperature falls below 40 °F (4 °C), condition the adhesive to 40 to 85 °F (4 to 29 °C) prior to use.
4. Trim/Shave times are estimates and based on 1/2 in. (12mm) bead. At -40 °F (-40 °C) trim/shave time is approximately 10 hours.

Revision 9.0

INSTALLATION INSTRUCTIONS (MPII)

Joint Preparation

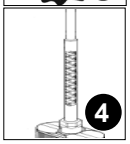
- **DO NOT use in Expansion Joints**. Use for exterior and interior control joints or moving cracks.
  Concrete should be at least 28 days old, or at a minimum, all release agents must be removed and bonding surface must be dry.
- **Heavy Duty Traffic Areas**: The joint width should be a maximum of 3/4 in. (19 mm). The depth should be a minimum of 3 times the width, or 2.2 in. (57 mm).
- **Light Foot Traffic Areas:** The joint width should be a maximum of 3/4 in. (19 mm). The depth should be a minimum of 1/2 in. (13 mm).
  Note: CRACKBOND JF-311 is not intended for joints subject to high movement but will accommodate 10 - 15% movement.

Cartridge Preparation

Shake the cartridge vigorously for 60 seconds, then stand cartridge upright for at least 1 minute allowing any bubbles to rise to the top.

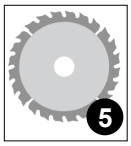
Insert cartridge into the dispenser. Make sure it is properly positioned with the shoulder of the cartridge flush with the front/top bracket of the dispenser. Point upward at about a 45° angle. Remove the plastic cap and plug from the top of the cartridge.

IMPORTANT: Before attaching nozzle, balance the cartridge by slowly dispensing a small amount of material into a disposable container until both components flow evenly from the cartridge. Install mixing nozzle onto cartridge.



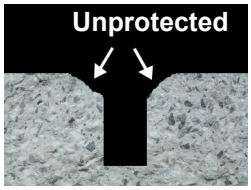
Continue to point the nozzle upward away from yourself and others while slowly applying pressure to dispenser moving any bubbles and product up through the nozzle until it reaches the tip. Dispense this first full stroke of material into disposable container. The cartridge is now purged and ready for use. **NOTE:** Schedule dispensing to consume an entire cartridge at one time with no interruption of flow to prevent material from hardening in mixing nozzle. If you have any problems in dispensing product, replace the nozzle; the product may have begun to cure in the nozzle which will affect the mix ratio. Never transfer a used nozzle to a new cartridge. Repeat the cartridge balancing steps listed above after replacing the nozzle.

Repairing Cracks or Installing Control Joints



Substrate and environment must be **completely dry without any presence of moisture** prior to usage. To fill cracks, use a saw or grinder with a dry diamond or concrete abrasive blade and cut along the crack opening it up to 3/16 in. to 1/4 in. wide. The edges must be a 90° angle to the surface (see Figure 2) to avoid a feathered edge (see Figure 1). See "Joint Preparation" above for joint width/depth information. To repair a control joint, fill all spalls with CRACKBOND CSR polyurethane and allow to cure. Recut the control joint to remove all filler materials and to reshape the spall repairs.

Figure 1



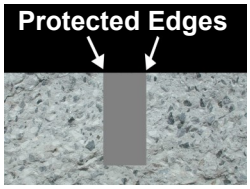
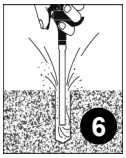
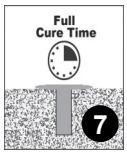


Figure 2



Blow out and remove all dust, dirt, debris, oil and any other contaminant from the control joint or crack. Use backer rod or kiln dried sand prior to application of adhesive. Allow sufficient depth for joint filler based upon minimum recommended depth of filler. Place mixing nozzle directly over the joint or repair area. Dispense material using full smooth trigger pulls (no short choppy strokes) and allow material to gravity feed into the crack/joint. **Note:** If you have difficulty in dispensing product, replace the nozzle with a new one. The product may have started to cure in the nozzle which could affect the mix ratio. Never transfer a used nozzle to a new cartridge. Instead use a new nozzle with each new cartridge. For joints to be shaved, over-fill the crack/joint so that material is slightly higher than the face of the concrete slab you are repairing. See Table 4 for estimated Shave Time vs. Temperature Range of a 1/2 in. thick bead.



Allow the CRACKBOND JF-311 to cure for a minimum of 45 minutes at 75 °F (24 °C) then use a sharp floor scraper to shave excess material from top surface. Follow explicit instruction below for application of any topcoat. Full cure times are temperature dependent and can be found in Table 3.

TECHNICAL DATA

TABLE 4: CRACKBOND JF-311 **COVERAGE CHART**

Joint Size in. (mm)	Linear Feet per Gallon (Linear Meter per Liter)	Linear Feet per 8.6 oz. Cartridge (Linear Meter per 254 ml Cartridge)	Linear Feet per 21.2 oz. Cartridge (Linear Meter per 627 ml Cartridge)
1/8 x 1 (3.18 x 25.40)	154.0 (12.40)	10.3 (3.14)	25.5 (7.77)
1/8 x 1-1/4 (3.18 x 31.75)	123.2 (9.92)	8.3 (2.53)	20.4 (6.22)
1/8 x 1-1/2 (3.18 x 38.10)	102.7 (8.27)	6.9 (2.10)	17.0 (5.18)
1/8 x 1-3/4 (3.18 x 44.45)	88.0 (7.10)	5.9 (1.80)	14.6 (4.45)
1/8 x 2 (3.18 x 50.80)	77.0 (6.20)	5.2 (1.58)	12.8 (3.90)
3/16 x 3/4 (4.76 x 19.05)	136.9 (11.02)	9.2 (2.80)	22.7 (6.92)
3/16 x 1 (4.76 x 25.40)	102.7 (8.27)	6.9 (2.10)	17.0 (5.18)
3/16 x 1-1/4 (4.76 x 31.75)	82.1 (6.61)	5.5 (1.68)	13.6 (4.15)
3/16 x 1-1/2 (4.76 x 38.10)	68.4 (5.51)	4.6 (1.40)	11.3 (3.44)
3/16 x 1-3/4 (4.76 x 44.45)	58.7 (4.73)	3.9 (1.19)	9.7 (2.96)
3/16 x 2 (4.76 x 50.80)	51.3 (4.13)	3.4 (1.04)	8.5 (2.59)
1/4 x 1 (6.35 x 25.40)	77.0 (6.20)	5.2 (1.58)	12.8 (3.90)
1/4 x 1-1/4 (6.35 x 31.75)	61.6 (4.96)	4.1 (1.25)	10.2 (3.11)
1/4 x 1-1/2 (6.35 x 38.10)	51.3 (4.13)	3.4 (1.04)	8.5 (2.59)
1/4 x 1-3/4 (6.35 x 44.45)	44.0 (3.54)	3.0 (0.91)	7.3 (2.23)
1/4 x 2 (6.35 x 50.80)	38.5 (3.10)	2.6 (0.79)	6.4 (1.95)
1/2 x 1 (12.70 x 25.40)	38.5 (3.10)	2.6 (0.79)	6.4 (1.95)
1/2 x 1-1/4 (12.70 x 31.75)	30.8 (2.48)	2.1 (0.64)	5.1 (1.55)
1/2 x 1-1/2 (12.70 x 38.10)	25.7 (2.10)	1.7 (0.52)	4.3 (1.31)
1/2 x 1-3/4 (12.70 x 44.45)	22.0 (1.77)	1.5 (0.46)	3.6 (1.10)
1/2 x 2 (12.70 x 50.80)	19.3 (1.55)	1.3 (0.40)	3.2 (0.98)
3/4 x 1 (19.05 x 25.40)	25.7 (2.06)	1.7 (0.53)	4.3 (1.31)
3/4 x 1-1/4 (19.05 x 31.75)	20.5 (1.65)	1.4 (0.42)	3.4 (1.04)
3/4 x 1-1/2 (19.05 x 38.10)	17.1 (1.38)	1.1 (0.35)	2.8 (0.85)
3/4 x 1-3/4 (19.05 x 44.45)	14.7 (1.18)	1.0 (0.30)	2.4 (0.73)
3/4 x 2 (19.05 x 50.80)	12.8 (1.03)	0.8 (0.26)	2.1 (0.64)
This is a general table for estimating product usage.			