

# Crack Repair and Structural Epoxy Injection for Concrete



(800) 999-5099  
strongtie.com

## CI Family Crack Repair and Structural Features and Benefits

### You've got cracks. We've got you covered with a complete line of structural epoxy repair products.

From viscosity to cure time, to pot life, to temperature, to class — the Simpson Strong-Tie family of crack repair products has a solution for almost every job. And we've got the dispensing tools and injection systems that help make application fast, easy and clean. Our CI family of epoxies are tested to the latest standards and meet ASTM C-881 Class IV for bonding hard-to-hard concrete in load-bearing applications. You can be sure that repairs are strong, and that your structures are safer.



#### The Right Size at the Right Time

For small to medium size jobs, Simpson has all Crack Injection formulations available in a 1 quart cartridge delivery system. These cartridges can be dispensed through a manual dispensing tool or a pneumatic dispensing tool. The pneumatic tool is a good solution to prevent fatigue on higher volume cracks.

For medium to large jobs, material cost can be reduced through buying in bulk. The 3-gallon bulk kits can be dispensed through metered bulk injection equipment supplied by others.



**EIP-EZA**  
E-Z-Click  
flush-mount  
injection port



**EIPX-EZ**  
E-Z-Click drilled-in/  
corner-mount  
injection port



#### Crack Injection System

For the pressure injection repair of cracks, the E-Z-Click™ injection system is comprised of a specially designed fitting and ports that take the mess out of your repair project while allowing you to work faster. The E-Z-Click injection fitting installs onto the end of the Optimix® mixing nozzle and clicks onto the E-Z-Click ports during injection. This positive connection eliminates messy leakage, minimizing waste and clean up. The E-Z-Click ports open and close with a simple push or pull of the head of the injection port. The ports are available in both flush mount and corner/drill-in configurations.



**EMNO22**



**EIF-EZ**  
E-Z-Click injection fitting



#### Paste Overs

Simpson has four paste-over formulations available.

Our ETR formulation is available in a 16 oz. kit — (2) 8 oz. jars for small repair jobs or for use as a dedicated epoxy for securing injection ports. It is a fast cure 1:1 ratio epoxy.

CIP-LO is a low odor fast cure 1:1 paste-over epoxy available in a 22 oz. cartridge or in a 2-gallon kit. CIPLO is a rigid paste over that can be left in place after injection or removed by grinding or chipping.

CIP-F is a flexible and peelable, fast-set polyuria paste-over material available in a 22 oz. cartridge. This material can be peeled away from the surface, preventing surface damage from port removal.

FX-764 Splash Zone and Underwater Paste is a 1:1 epoxy available in ½ gallon and 2 gallon kits. FX-764 has a putty like consistency and is designed for crack sealing and concrete repair in wet conditions.



**CIP-LO** Paste-over epoxy



**ETR**  
Paste-over epoxy



**CIP-F**  
Flexible paste-over adhesive

Technical Information



CI-LV

**Hi-Modulus, Low Viscosity**

- All-around versatility; low and high temperatures
- Optimal viscosity for a high percentage of jobs
- Underwater pressure injection
- NSF/ANSI 61 approval

**Viscosity**

50°F (10°C) = 1,500 cP  
72°F (22°C) = 350 cP

**Crack Width**

0.002–0.25 (0.05 mm–6 mm)

**Usage Temperature**

40°F (4°C)–90°F (32°C)

**Gel Time** (60 gram mass) 50°F (10°C) = 400 minutes

72°F (22°C) = 45 minutes

**Cure Time**

72°F (22°C) = 6¼ hours

**ASTM C881**

Type I / II; Grade 1; Class B

Type I / IV and II / V; Grade 1; Class C



CI-LV FS

**Hi-Modulus, Low Viscosity, Fast Set**

- Fast setting in warmer temperatures
- Underwater pressure injection

**Viscosity**

50°F (10°C) = 2,000 cP  
72°F (22°C) = 600 cP

**Crack Width**

0.016–0.25 (0.4 mm–6 mm)

**Usage Temperature**

40°F (4°C)–90°F (32°C)

**Gel Time** (60 gram mass) 50°F (10°C) = 55 minutes

72°F (22°C) = 12 minutes

**Cure Time**

72°F (22°C) = 4 hours

**ASTM C881**

Type I / II; Grade 1; Class B

Type I / IV and II / V; Grade 1; Class C



CI-GV

**Hi-Modulus, Gel Viscosity**

- Non-sag gel
- Larger cracks
- Pick-proof sealant
- Underwater pressure injection

**Viscosity**

50°F (10°C) = Non-Sag  
72°F (22°C) = Non-Sag

**Crack Width**

0.094–0.25 (2.4 mm–6 mm)

**Usage Temperature**

40°F (4°C)–90°F (32°C)

**Gel Time** (60 gram mass) 50°F (10°C) = 200 minutes

72°F (22°C) = 30 minutes

**Cure Time**

72°F (22°C) = 6 hours

**ASTM C881**

Type I / II; Grade 3; Class B

Type I / IV and II / V; Grade 3; Class C



CI-SLV

**Hi-Modulus, Super Low Viscosity**

- Gravity feed
- Ultra-fine cracks
- Broadcast or flood coat
- Underwater pressure injection

**Viscosity**

72°F (22°C) = 150 cP  
90°F (32°C) = 85 cP

**Crack Width**

0.002–0.25 (0.05 mm–6 mm)

**Usage Temperature**

60°F (16°C)–90°F (32°C)

**Gel Time** (60 gram mass) 72°F (22°C) = 40 minutes

**Cure Time**

72°F (22°C) = 9 hours

**ASTM C881**

Type I / IV; Grade 1; Class C



CI-LPL

**Hi-Modulus, Long Pot Life, Low/Medium Viscosity**

- Bulk injection
- Long working times at higher temps (up to 110° F/43°C)
- Medium viscosity at lower temperatures
- Underwater pressure injection

**Viscosity**

72°F (22°C) = 2,000 cP  
90°F (32°C) = 750 cP

**Crack Width**

0.016–0.25 (0.4 mm–6 mm)

**Usage Temperature**

60°F (16°C)–110°F (43°C)

**Gel Time** (60 gram mass)

60°F (10°C) = 420 minutes

72°F (22°C) = 135 minutes

95°F (35°C) = 40 minutes

**Cure Time**

95°F (35°C) = 4 hours

**ASTM C881**

Type I / IV; Grade 2; Class C

## Packaging Information

Model No.	Option	Packaging Qty.	Carton Qty.	Compatible Tools and Cartridges
<b>Epoxy Formulations</b>				
CIGV32	CI-GV Gel Viscosity Cartridge System, 32 oz. (946 mL)	1	5	ADT30S, ADTA30P (EMN022 mixing nozzle included)
CIGV3KT	CI-GV Gel Viscosity 3 Gallon (11.4 L) Bulk Kit Kit Contains (2) CIGV1A & (1) CIGV1B	1	—	Metering pumps offered by third-party manufacturers
CILV32	CI-LV Low Viscosity Cartridge System, 32 oz. (946 mL)	1	5	ADT30S, ADTA30P (EMN022 mixing nozzle included)
CILV3KT	CI-LV Low Viscosity 3 Gallon (11.4 L) Bulk Kit Kit Contains (2) CILV1A & (1) CILV1B	1	—	Metering pumps offered by third-party manufacturers
CILVFS32	CI-LV FS Low Viscosity Cartridge System, 32 oz. (946 mL)	1	5	ADT30S, ADTA30P (EMN022 mixing nozzle included)
CILVFS3KT	CI-LV FS Low Viscosity 3 Gallon (11.4 L) Bulk Kit Kit Contains (2) CILV1A & (1) CILVFS1B	1	—	Metering pumps offered by third-party manufacturers
CILPL32	CI-LPL Long Pot Life Cartridge System, 32 oz. (946 mL)	1	5	ADT30S, ADTA30P (EMN022 mixing nozzle included)
CILPL3KT	CI-LV Long Pot Life 3 Gallon (11.4 L) Bulk Kit Kit Contains (2) CILPL1A & (1) CILPL1B	1	—	Metering pumps offered by third-party manufacturers
CISLV32	CI-SLV Super Low Viscosity Cartridge System, 32 oz. (946 mL)	1	5	ADT30S, ADTA30P (EMN022 mixing nozzle included)
CISLV3KT	CI-SLV Super Low Viscosity 3 Gallon (11.4 L) Bulk Kit Kit Contains (2) CISLV1A & (1) CISLV1B	1	—	Metering pumps offered by third-party manufacturers
<b>Paste Over</b>				
ETR16	ETR Kit Containing (1) 8 oz. Canister of Resin and (1) 8 oz. Canister of Hardener	1	4	Manual Mixing
CIPL022	Low-Odor Crack-Injection Paste Over 22 oz. Cartridge	1	10	EDT22S, EDTA22CKT Dispensing Tools (EMN221 mixing nozzle included)
CIPL02KT	Low-Odor Crack-Injection 2 Gallon Bulk Kit Kit Contains (1) CIPL01A & (1) CIPL01B	1	—	Manual Mixing
CIPF22	Flexible/Peelable Crack-Injection Paste Over 22 oz. Cartridge	1	10	EDT22S, EDTA22CKT Dispensing Tools (EMNCIPF22 mixing nozzle included)
FX-764KT2QT	Underwater Paste Over 2 Quart Bulk Kit Kit Contains (1) FX764-1QTA & (1) FX764-1QTB	1	—	Manual Mixing
FX764KT2	Underwater Paste Over 2 Gallon Bulk Kit Kit Contains (1) FX764-1A & (1) FX764-1B I11	1	—	Manual Mixing
<b>Dispensing Tools</b>				
ADT30S	Manual Tool for 30 oz. and 32 oz. Cartridges	1	5	CIGV32, CILV32, CILVFS32, CILPL32, CISLV32
ADTA30P	Pneumatic Tool for 30 oz. and 32 oz. Cartridges	1	—	CIGV32, CILV32, CILVFS32, CILPL32, CISLV32
EDT22S	EDT22S Manual Tool for 22 oz. Cartridges	1	5	CIPL022, CIPF22
<b>Mixing Nozzles</b>				
EMN022-RP6	Optimix® Mixing Nozzle, 6-pack	6	5 packs	CIGV32, CILV32, CILVFS32, CILPL32, CISLV32
EMN221-RP5	18 Element Nozzle, 5-pack	5	12 packs	CIPL022
EMNCIPF22-RP5	Mixing Nozzle, 5-pack	5	5 packs	CIPF22
<b>E-Z-Click™ Injection Fitting &amp; Ports</b>				
EIF-EZ	E-Z-Click™ injection fitting	1	10	
EIP-EZA	E-Z-Click flush-mount injection port	1	100	
EIP-EZAKT	20 E-Z-Click flush-mount injection ports and 1 E-Z-Click injection fitting	1 kit	5 kits	
EIPX-EZ-RP20	20 E-Z-Click corner-mount/drilled-in injection ports	20	5 packs	
EIPX-EZKT	20 E-Z-Click corner-mount/drilled-in injection ports and 1 E-Z-Click injection fitting	1 kit	5 kits	

For more information regarding specific products suitable to your unique situation or condition, please visit [strongtie.com/crackrepair](http://strongtie.com/crackrepair) or call your local specialist at (800) 999-5099.