

# CONCRECIVE® LIQUID LPL

Concrete bonding adhesive with long pot life

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Construction Chemicals

## Description

Concresive® Liquid LPL is a two component 100% solids liquid epoxy bonding adhesive. It is designed for application in warm environments or applications requiring a long working time.

## Yield

Smooth surfaces: 100 ft<sup>2</sup>/gallon (2.4 m<sup>2</sup>/L) Rough surfaces: 50 – 75 ft<sup>2</sup>/gallon (1.2 – 1.8 m<sup>2</sup>/L) Coverage rates are approximate. Actual coverage rate will depend on texture and porosity of concrete and application method employed.

## Packaging

1 gallon (3.8 L) units  
3 gallon (11.4 L) units

## Shelf Life

2 years when properly stored

## Storage

Store in sealed containers at temperatures between 50 and 90° F (10 and 32° C) in a clean, dry area.

## Where to Use

### APPLICATION

- Bonding fresh concrete to existing concrete
- Grouting bolts, dowels, and rebar into concrete, stone, and masonry
- Filling joints and voids in masonry
- Bonding concrete to dissimilar materials like steel and wood
- Coating rebar

### LOCATION

- Interior or exterior

## How to Apply

### Surface Preparation CONCRETE

1. Substrate may be dry or damp, although dry surfaces product optimum results. New concrete must be fully cured (28 days minimum).

### Features

- Creamy high-build liquid
- Very long working time
- Moisture insensitive
- May be extended with properly graded sand

2. Remove grease, wax, oil contaminants, and curing compounds by scrubbing with an industrialgrade detergent or a degreasing compound.
3. Follow with mechanical cleaning (refer to ASTM D 4258). Remove weak, contaminated, or deteriorated concrete by shotblasting, bushhammering, gritblasting, scarifying, or other suitable mechanical means. Follow mechanical cleaning with vacuum cleaning (refer to ASTM D 4259).

### STEEL

Remove dirt, grease, and oil with a suitable industrial-grade cleaning-and-degreasing compound (SSPC-SP-1). Remove rust and mill scale by gritblasting. Blast steel to white metal. Follow gritblasting with vacuuming or oil-free dry-air blast (refer to SSPC-SP-10 or NACE-2).

### Mixing

1. The mix ratio is 2 (Parts A) to 1 (Part B). Mix only the amount of material usable before the pot life expires. Thoroughly stir each component before mixing.
2. Measure (ratio) each component carefully and then add Part B (hardener) to Part A (resin).
3. Mix Parts A and B using a low-speed drill (600 rpm) and mixing paddle (e.g., a Jiffy mixer). Carefully scrape the sides and 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

### Benefits

- Single application
- Facilitates proper placement; ideal for warm environments
- Bonds to damp concrete surfaces
- More economical applications

3 – 5 minutes. Well-mixed material will be free of streaks or lumps.

## Application

### GENERAL BONDING

Although this product will adhere to damp surfaces, dry surfaces produce the best results. When the surface is wet, remove free water by air blast or squeegee. Apply the bonding agent with a brush, paint roller, squeegee, conventional sprayer, or airless sprayer. The minimum bondline thickness should be 15 mils.

### BONDING FRESH CONCRETE TO EXISTING CONCRETE

1. The new concrete being bonded should be a relatively low-slump mix.
2. When bonding concrete containing latex polymer admixtures, check compatibility either by installing a test patch and performing a pull-off test or by conducting a laboratory slant shear test (AASHTO T-237).
3. Apply the bonding agent as described in the General Bonding section above. Lightweight concrete may require a second coat if the first coat penetrates. Place fresh concrete within the open time or while the bonding agent is still tacky. Be careful when applying the fresh concrete not to damage the bonding layer.
4. For highly irregular surfaces sand may be used to extend this material. For proper application techniques refer to Appendix MB-17:

### Surface Preparation for Adhesives. BOLT AND REBAR GROUTING

1. Holes may be cut by either rotary-

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## Technical Data

### Composition

Concresive® Liquid LPL is a two-component 100% solids liquid epoxy.

### Compliances

- ASTM C 881, Type II, Grade 2, Class C

### Typical Properties

COMPONENT	PART A (Resin)	PART B (Hardener)
Form	Liquid	Liquid
Color	White	Black
Mixing ratio, by volume	2	1
Mixed color	Dark gray	

PROPERTY	VALUE		
	50° F (10° C)	77° F (25° C)	105° F (41° C)

### Pot life

1 qt (946 ml)	4.5 hrs	75 min	30 min
1 gal (3.8 L)	3.9 hrs	70 min	25 min
5 gal (18.9 L)	2.5 hrs	60 min	20 min

### Viscosity, cps

Resin	66,000	12,000	9,000
Hardener	1,150	350	110
Mixed	63,000	9,000	8,500

Thin film, open time 4 hrs 2 hrs 40 min

Thin film, days, full cure 14 7 3

percussion drilling, followed by air blow-out with oil-free compressed air, or diamond core boring, followed by water flush. The hole must be free of water before grouting. Where holes will be precast into the concrete, cast them undersized and drill them to fit.

2. The optimum hole size is 1/4" (6 mm) larger than the bar's; larger annular spaces are less desirable.

3. Pour a measured amount of bonding agent into the hole. Insert the bar, displacing the bonding agent, then secure the bar in the center of the hole. Remove excess bonding agent from around the hole before it hardens. Use pressure grouting for holes deeper than 2 ft (0.6 m).

### Test Data<sup>1</sup>

PROPERTY	RESULTS	TEST METHODS
Tensile strength, psi (MPa)	4,400 (30.4)	ASTM D 638
Elongation at break, %	1.49	ASTM D 638
Compressive yield strength, psi (MPa)	8,300 (57.3)	ASTM D 695
Compressive modulus, psi (MPa)	3.5 x 10 <sup>6</sup> (2.4 x 10 <sup>3</sup> )	ASTM D 695
Heat deflection temperature, ° F (° C)	127 (53)	ASTM D 648
Slant shear strength, psi (MPa)	5,000 (34.5)	AASHTO T-237
Bond strength, damp-to-damp concrete	100% concrete failure	AASHTO T-237
Bond strength at 14 days, psi (MPa)	1,800 (12.4)	ASTM C 882
Flexural bond strength, psi (MPa)	570 (3.9)	ASTM C 293

<sup>1</sup>Test temperature 77° F (25° C), cured 7 days.

Properties listed are typical and may be used as a guide for determining suitability for particular applications.

## Clean Up

Clean all tools and equipment immediately with xylene or mineral spirits. Cured material must be removed mechanically.

## For Best Performance

- Precondition all components to 70°F for 24 hours before using.
- Application temperature range is 50 to 105°F (10 to 41°C).
- Do not add solvents or water to epoxy components.
- Make certain the most current versions of product data sheet and MSDS are being used.

## Health and Safety

### CONCRESlVE® LIQUID LPL PART A Risks

May cause eye irritation. May cause skin irritation. Skin sensitizer. May cause lung irritation and allergic respiratory reaction. Refer to Material Safety Data Sheet (MSDS) for effects of repeated overexposure.

### Precautions

KEEP OUT OF THE REACH OF CHILDREN. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel ill, seek medical advice.

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## First Aid

If breathing is difficult, move person to fresh air. If you feel ill, seek medical advice. In case of eye contact, flush immediately with plenty of water for 15 minutes and call a physician. For skin, wash thoroughly with soap. If affected by inhalation of vapor or spray mist, remove to fresh air. If swallowed, DO NOT induce vomiting. Have victim drink water if conscious. DO NOT give anything to an unconscious person. Obtain medical attention immediately. For additional information on personal protective equipment, first aid, and emergency procedures, refer to the product Material Safety Data Sheet (MSDS) on the job site or contact the company at the address or phone numbers given below.

## Proposition 65

This product does not contain materials listed by the state of California as known to cause cancer, birth defects, or reproductive harm.

## VOC Content

0 lbs/gal or 0 g/L.

## CONCRESlVE® LIQUID LPL PART B Risks

Harmful if inhaled. May cause lung irritation. Causes eye burns. Causes skin burns. Harmful if absorbed through skin. Harmful if swallowed. Refer to Material Safety Data Sheet (MSDS) for effects of repeated overexposure.

## Precautions

KEEP OUT OF THE REACH OF CHILDREN. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel ill, seek medical advice.

## First Aid

If breathing is difficult, move person to fresh air. If you feel ill, seek medical

advice. In case of eye contact, flush immediately with plenty of water for 15 minutes and call a physician. For skin, wash thoroughly with soap. If affected by inhalation of vapor or spray mist, remove to fresh air. If swallowed, DO NOT induce vomiting. Have victim drink water if conscious. DO NOT give anything to an unconscious person. Obtain medical attention immediately. For additional information on personal protective equipment, first aid, and emergency procedures, refer to the product Material Safety Data Sheet (MSDS) on the job site or contact the company at the address or phone numbers given below.

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