BASF

The Chemical Company

PRODUCT DATA

3 03 01 00 **Maintenance of Concrete**

CONCRESIVE® PASTE LPL

Concrete bonding adhesive with long pot life

Description

Concresive® Paste LPL is a two-component 100% solids nonsag epoxy adhesive. It is used for vertical and overhead bonding and patching applications and for anchoring.

Yield

Smooth surfaces:
12 ft²/gallon (0.29 m²/L)

Rough surfaces:
6 ft²/gallon (0.15 m²/L)

Coverage rates assume a thickness of 1/8" (3 mm). 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 unopened at temperatures between 50 and 90° F (10 and 32° C) in a clean, dry area.

Features	Benefits
• Nonsag gel	Ideal for vertical and overhead applications
• Very long working time	Facilitates proper application, especially in hot weather
• Moisture insensitive	Bonds to damp concrete surfaces
• May be extended with properly graded sand	More economical applications

Where to Use

APPLICATION

- Pinning loose or broken masonry
- Bonding rigid materials like metal, concrete, stone
- Bonding flexible materials like plastics, foam, rubber
- Fairing uneven surfaces, filling gaps and joints
- Bonding fresh to existing concrete
- Grouting bolts, dowels, and rebar into concrete, stone, and masonry
- As a rigid, pick-proof security sealant use

LOCATION

- Horizontal, vertical, and overhead surfaces
- 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 day minimum).

2. Remove grease, wax, oil contaminants, and curing compounds by scrubbing with an industrial-grade detergent or a degreasing compound. 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.

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).

Protection and Repair

Technical Data

Composition

Concresive® Paste LPL is a two-component 100% solids nonsag epoxy.

Typical Properties

COMPONENT	PART A (Resin)	PART B (Hardener)
Form	Paste	Paste
Color	White	Black
Mixing ratio (by volume)	2	1
Mixed color	Gray	

PROPERTY	VALUE		
	60° F (16° C)	**85° F (29° C)**	**105° F (41° C)**
Nonsag thickness, in (mm)	3/4 (19)	1/2 (13)	1/4 (6)
Initial cure time, days, for 5,000 psi (34.5 MPa) minimum, (AASHTO T-237)	10	6	3
Full cure time, days (ASTM D 695)	20	10	7
Pot life, hrs, 1 gal (3.8 L)	2-1/2	1	1/2
Open time	3 hr	90 min	40 min

Test Data

PROPERTY	RESULTS	TEST METHODS
Tensile strength, psi (MPa)	2,000 (13.8)	ASTM D 638
Elongation at break, %	4	ASTM D 638
Compressive yield strength, psi (MPa)	8,000 (55.2)	ASTM D 695
Compressive modulus, psi (MPa)	4.0×10^5 (2.8×10^3)	ASTM D 695
Heat deflection temperature, 28 day cure, ° F (° C)	128 (53)	ASTM D 648
Slant shear strength, psi (MPa)	> 5,000 (34.5)	AASHTO T-237
Bond strength, at 14 days, psi (MPa)	1,500 (10.3)	ASTM C 882

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.

Mixing

1. The mix ratio is 2 (Parts A) to 1 (Part B). Mix only an 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 3 – 5 minutes. Well-mixed material will be free of streaks or lumps.

Application

GENERAL BONDING

1. Deep surface irregularities can be faired with a 1-to-1 sand and Concresive® Paste LPL mix. Allow this fairing material to set. Within 24 hours, apply neat bonding agent with a trowel in sufficient quantities to fill all gaps between the mated surfaces.

2. The neat bondline thickness should be 1/32 – 1/8" (0.8 – 3 mm). Ideally, a small amount of bonding agent should extrude from the joint when the surfaces are mated and pressure is applied. Surfaces must be mated while the paste is still tacky (within the open time).

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.

PATCHING MORTARS AND GROUTS

Use washed, kiln-dried, and bagged graded silica sand. A carefully selected blend of sands with a low void content will require less epoxy for a given volume of mortar compared to ungraded sands. A good "skip" gradation for low void content is a blend by weight of 2 parts #12 or #16 mesh to 1 part #80 or #100 mesh. When graded sands are not available, a good general-purpose sand is #30 mesh silica.

BOLT AND REBAR GROUTING

1. Holes may be cut by either rotary-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. Apply a measured amount of bonding adhesive into the back or bottom of the hole with a caulking gun equipped with an extension nozzle. Insert the bar, displacing the paste, 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).

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.
- Do not thin with solvents.
- Application temperature range is 60 to 105° F (16 to 41° C).
- Nonsag characteristics will diminish at the upper end of the application-temperature range.
- Evaluate sustained load conditions before using this product structurally above a service temperature of 105° F (41° C).
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

CONCRESIVE® PASTE LPL PART A

Caution

Contains epoxy resin, 0-cresyl glycidyl ether.

Risks

May cause skin, eye and respiratory irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Ingestion may cause irritation.

Precautions

Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Keep container closed when not in use. Wash thoroughly after handling. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

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 knowingly contain materials listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents when components are mixed and applied per Manufacturer's instructions.

CONCRESIVE® PASTE LPL PART B

DANGER – CORROSIVE

Contains: Amidoamine; 2,4,6-Tris ((dimethylamino)methyl) phenol; Dimethylaminomethyl phenol; Tetraethylenepentamine; Phenol.

Risks

Contact with skin or eyes may cause burns. Ingestion may cause irritation and burns of mouth, throat and stomach. Inhalation of vapors may cause irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Repeated or prolonged contact with skin may cause sensitization. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

Precautions

DO NOT get in eyes, on skin or clothing. Wash thoroughly after handling. Keep container closed. DO NOT take internally. Use only with adequate ventilation. DO NOT breathe vapors. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

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For medical emergencies only,
call ChemTrec (1-800-424-9300).

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