

# CONCRESE<sup>®</sup> PASTE SPL

*Short pot life concrete bonding adhesive*

## DESCRIPTION:

CONCRESE<sup>®</sup> PASTE SPL is a two component, 100% solids, non-sag paste epoxy adhesive used for vertical and overhead applications and for horizontal anchoring. It is recommended where applied loads are short-term or of moderate intensity, and for application when the ambient temperature and/or concrete surface temperature is in the 32 °F to 50 °F (0 °C to 10 °C) range. It may also be used between 50 °F and 70 °F (10 °C and 21 °C) when rapid curing is required.

**NOTE:** At temperatures of 32 °F (0 °C) or less, care must be taken to assure that all ice has been removed from the surface to be bonded.

## RECOMMENDED FOR:

- Sealing surfaces prior to epoxy injection
- Pinning loose or broken masonry
- Bonding of rigid materials
- Fairing uneven surfaces, filling gaps and joints
- Grouting bolts dowels and rebar into concrete
- Rigid, pick-proof, security, sealant uses

## FEATURES/BENEFITS:

- Non-sag gel consistency
- Bonds to damp surfaces
- Cures down to 25 °F (-4 °C)
- Excellent workability
- Cures quickly at moderate temperatures
- Meets ASTM C881, Type I & IV, Grade 3, Class A & B

## ESTIMATING/PACKAGING:

CONCRESE PASTE SPL is packaged in 1 U. S. gal (3.8 L) units. Coverage rates are as follows at a 1/8 in. (3 mm) thickness:

Smooth surfaces – 12 ft<sup>2</sup>/gal (0.29 m<sup>2</sup>/L)  
Rough surfaces – 6 ft<sup>2</sup>/gal (0.15 m<sup>2</sup>/L)

## PERFORMANCE DATA<sup>1</sup>:

<b>Tensile Strength</b>	4,500 psi (31.0 MPa)
<b>Elongation at Break</b> (ASTM D638)	0.5%
<b>Compressive Yield Strength</b>	14,000 psi (96.6 MPa)
<b>Compressive Modulus</b> (ASTM D695)	3.0 x 10 <sup>5</sup> psi (.207 GPa)
<b>Heat Deflection Temperature</b> (ASTM D648)	126 °F (52 °C)

<b>Slant Shear Strength</b>	>5,000 psi (34.5 MPa)
<b>Bond Strength</b> (ASTM C882)	2,300 psi (15.9 MPa)
<b>Damp-to-Damp Concrete</b> (AASHTO T-237)	100% concrete failure

<sup>1</sup>Test temperature: 77 °F (25 °C), cured 7 days. Properties listed are typical and descriptive of the product, and may be used only as a guide for determining suitability for particular applications.

	@ 40 °F (4 °C)	@ 77 °F (25 °C)
<b>Non-Sag Thickness</b> (ASTM D 2730)	3/4 in. (19 mm)	1/2 in. (13 mm)
<b>Pot Life</b> 1 gallon (3.8 litre)	40 minutes	14 minutes
<b>Open Time</b>	90 minutes	45 minutes
<b>Shelf Life</b>	18 months minimum, when stored at temperatures between 40 °F and 90 °F (4 °C and 32 °C)	

	<b>Components</b>	
	<b>Part A (Resin)</b>	<b>Part B (Hardener)</b>
<b>Form</b>	Paste	Paste
<b>Color</b>	White	Black
<b>Mixing Ratio</b> (by volume)	2	1
<b>Mixed Color</b>	Gray	

**The following information regarding surface preparation, mixing and application is provided as a brief overview. For instructions before use of this product, reference the CONCRESE PASTE SPL product packaging.**

## SURFACE PREPARATION:

### Concrete Surfaces

Substrate may be dry or damp, although optimum results are obtained on a dry surface. New concrete must be fully cured (28-day minimum).

Remove grease, wax, oil contaminants and curing compounds by scrubbing with an industrial grade detergent or a degreasing compound, then follow with mechanical cleaning. (Ref: 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. (Ref: ASTM D 4259)

Acid-etching with 15% hydrochloric acid should only be used if there is no practical alternative. It must be followed by pressure washing, scrubbing and flushing with copious amounts of clean water. Check for removal of acid with moist pH paper. Reading should be greater than 10.

### Steel Surfaces

Remove dirt, grease and oil with a suitable, industrial grade, cleaning and degreasing copound. (Ref: SSPC-SP-1)

Remove rust and mill scale by gritblasting. Blast steel to near white metal. Follow gritblasting with vacuuming or oil-free, dry-air blast (Ref: SSPC-SP-10 and NACE-2).

### MIXING:

Mix only the amount of material that can be used before the pot life expires. Thoroughly stir each component before mixing. Measure (ratio) the components carefully and then add Part B (Hardener) to Part A (Resin). Mix parts A & B using a low-speed drill (600 RPM) and mixing paddle (i.e. 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 to 5 minutes. Well mixed material will be free of streaks or lumps.

### APPLICATION:

#### General Bonding

Deep surface irregularities can be faired with a 1:1 mixture of sand and CONCRECIVE PASTE SPL. Allow this fairing material to set. Within 24 hours, apply neat CONCRECIVE PASTE SPL with a trowel in sufficient quantities to fill all gaps between the mated surfaces. The bond-line thickness should be between 1/32 in. and 1/8 in. (0.79 mm and 3 mm). Ideally, a small amount of bonding agent should be extruded 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).

#### Sand Quality

Use graded silica sand; washed, kiln dried and bagged. 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 two parts #12 or #16 mesh to one part #80 to #100 mesh. When graded sands are not available, a good general purpose sand is #30 mesh silica.

### Bolt and Rebar Grouting

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. Where holes are pre-cast into the concrete, cast them undersized and drill to fit.

The optimum hole size is 1/4 in. (6mm) larger than the bar diameter; larger or smaller annular spaces are less desirable.

Install a measured amount of bonding agent into the bottom of the hole with a caulking gun equipped with an extension nozzle. Insert the bar, displacing the bonding agent and secure it in the center of the hole. Remove excess bonding agent from around the hole before it hardens. For grouting holes deeper than 2 feet (0.6 m), pressure grouting is recommended.

### CLEAN UP:

Mixed epoxy is much easier to clean up before it hardens. Solvents such as acetone, methyl ethyl ketone (MEK) or toluene may be used. Commercial epoxy/paint stripper solvents are recommended for hardened epoxy. Consult solvent manufacturer's usage recommendations.

### LIMITATIONS:

- Application temperature range is 25 °F to 70 °F (-4 °C to 21 °C). At low temperatures, surfaces must be free of ice.
- Bonding to a clean damp surface is possible but less desirable than to a dry surface. When applying this product to a damp surface, remove free water by airblast.
- CONCRECIVE adhesives are two-component epoxies formulated for industrial and professional use only, and must be kept out of the reach of children. These products contain epoxy resins and amine curing agents which may be CORROSIVE and potentially HARMFUL to your health if not stored and used properly. Hazards can be significantly reduced by observing all precautions which are found on Material Safety Data Sheets (MSDS), product labels and technical literature. Please read this literature carefully before using these products.

### RELATED BULLETINS:

Material Safety Data Sheet — CONCRECIVE PASTE SPL

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