

CI-LPL Low-Viscosity Long-Pot-Life Injection Epoxy

CI-LPL long-pot-life structural injection epoxy is a two-component, high-modulus, high-solids, moisture-tolerant epoxy specially designed for pressure injection, gravity feeding and flood coat filling of concrete cracks when substrate temperatures are between 60°F (16°C) to 110°F (43°C). Available in 3-gallon bulk kits or convenient side-by-side cartridges dispensed through a static mixing nozzle using either a manual or pneumatic dispensing tool.

Features

- Chemically bonds with the concrete to provide a structural repair. CI-LPL seals the crack from moisture, protecting rebar in the concrete from corrosion.
- Moisture-tolerant, can be used on dry and damp surfaces.
- Formulated for use in hot environments to 110°F.
- Low surface tension allows the material to effectively penetrate narrow cracks.
- Formulated for maximum penetration under pressure.
- Non-shrink and resistant to oils, salts and mild chemicals.
- Can be used with metered pressure-injection equipment.
- Freeze-thaw resistant.

Applications

- Pressure injection
- Gravity feed
- Underwater pressure injection

Product Information

Mix Ratio/Type	2:1
Mixed Color	Amber
Crack Width	0.016"–0.25" (0.4 mm–6 mm)
Shelf Life	24 months
Storage Temperature	45°F (7°C)–90°F (32°C)
Base Material Temperature	60°F (16°C)–110°F (43°C)
Volatile Organic Compound (VOC)	< 1 g/L mixed
Yield	231 in. ³ /US gal. (0.001 m ³ /L)
For Flood-Coat Applications	150–200 ft. ² /US gal. (3.7–4.9 m ² /L) depending on surface profile and porosity
Pot Life, 1 Quart	20 minutes at 90°F (32°C) 60 minutes at 72°F (22°C)
Thin Film (5 mil) Set Time at 72°F, ASTM D5895	Set to touch: 6 hrs. 30 min. Dry through: 16 hrs. 30 min.
Thin Film (5 mil) Set Time at 95°F, ASTM D5895	Set to touch: 3 hr. Dry through: 4 hr.
Manufactured in the US using global materials	

Code Reports, Standards and Compliance

ASTM C881 and AASHTO M235 Type I/IV; Grade 1; Class C

Installation Instructions

Installation instructions are located at the following locations: pp. 210–215, product packaging or on the CI-LPL Technical Data Sheet at strongtie.com/rps.

Accessories

See p. 209 for information on crack repair accessories.

CI-LPL Packaging Information

Model No.	Capacity (ounces)	Packaging Type	Package Quantity	Carton Quantity	Dispensing Tools	Mixing Nozzle
CILPL32	32	Side-by-side cartridge	1	5	ADT30S, ADT30P	EMN022 (included)
CILPL3KT	384	3-gallon bulk kit	1 case of (3) gallon cans	—	Metering pumps offered by third-party manufacturers	—

1. Cartridge estimation guidelines are available at strongtie.com/apps.



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Technical Information

Compressive Strength

Cure Time	60°F (16°C) psi (MPa)	72°F (22°C) psi (MPa)	90°F (32°C) psi (MPa)	110°F (43°C) psi (MPa)	Test Standard
8-hour cure	—	—	6,900 (47.6)	10,000 (70.0)	ASTM D695
16-hour cure	—	—	9,900 (68.3)	10,100 (69.6)	
24-hour cure	—	6,800 (46.9)	10,900 (75.2)	10,200 (70.3)	
3-day cure	8,450 (58.3)	9,900 (68.3)	11,200 (77.2)	10,200 (70.3)	
7-day cure	10,400 (71.7)	10,800 (74.5)	11,200 (77.2)	10,200 (70.3)	
14-day cure	11,600 (80.0)	11,500 (79.3)	11,200 (77.2)	10,200 (70.3)	
28-day cure	12,000 (82.7)	11,700 (80.7)	11,400 (78.6)	10,400 (71.7)	

Temperature Range	60°F (16°C)	72°F (22°C)	95°F (35°C)	Test Standard
Epoxy Classification	Types I, IV; Grade II (MV) ¹	Types I, IV; Grade I (LV) ¹		ASTM C881
Viscosity — mixed	3,600 cP	2,000 cP	750 cP	ASTM D2556
Gel Time — 60 gram mass	420 minutes	135 minutes	40 minutes	ASTM C881
Bond Strength, Slant Shear: Hardened to Hardened Concrete — 2-day cure Hardened to Hardened Concrete — 3-day cure Hardened to Hardened Concrete — 14-day cure	3,000 psi (20.7 MPa) ² — —	— 1,375 psi (9.5 MPa) 1,500 psi (10.3 MPa)	1,300 psi (9.0 MPa) — —	ASTM C882
Tensile Strength — 7-day cure	7,100 psi (49.0 MPa)	8,000 psi (55.2 MPa)	8,300 psi (57.2 MPa)	ASTM D638
Elongation at Break — 7-day cure	2.52%	3.41%	3.21%	ASTM D638
Flexural Strength — 7-day cure	—	11,400 psi (78.6 MPa)	—	ASTM D790
Modulus of Elasticity in Compression — 7-day cure	345,000 psi (2,378.7 MPa)	349,000 psi (2,406.3 MPa)	365,000 psi (2,516.6 MPa)	ASTM D695
Heat Deflection Temperature — 7-day cure	—	122°F (50°C)	—	ASTM D648
Glass Transition Temperature — 7-day cure	—	135°F (57°C)	—	ASTM E1356
Water Absorption — 7-day cure ³	—	0.07%	—	ASTM D570
Linear Coefficient of Shrinkage	—	0.001	—	ASTM D2556
Coefficient of Thermal Expansion	—	2.92 x 10 ⁻⁵ in./(in.°F) 5.26 x 10 ⁻⁵ cm/(cm°C)	—	ASTM C531
Shore D Hardness — 24-hour cure	—	78	—	ASTM D2240
Shore D Hardness — 7-day cure	—	80	—	ASTM D2240
Adhesion to Concrete — 24-hour cure	—	1,250 psi (8.8 MPa)	—	ASTM D7234

1. Installation under damp conditions 72°F–110°F (22°C–43°C).

2. Tested using dry test specimens.

3. Cured at 72°F (22°C), immersed in water 24 hours.