CHEM-INJECT XLV40

100% Solids, 230 cps Viscosity, 4% Elongation Epoxy Injection System, 35 Minutes Pot Life

PRODUCT DESCRIPTION

CHEM-INJECT XLV40 is a two component, solvent-free, low viscosity, low modulus and non-pigmented epoxy resin based injection system. Both resin and hardener components are formulated. Ideal for sealing static cracks of widths even less than 200 microns. The product meets ASTM C881 Type I Grade I.

FIELDS OF APPLICATION

CHEM-INJECT XLV40 is used to repair and sealing of various types of concrete cracks which are dormant without any movements, filling of cavities and voids, etc. The product can be extensively used in the following fields:

- ☐ Columns and beams.
- ☐ Bridge decks and underpasses.
- ☐ Floors and basements.
- ☐ Piers, tunnels and abutments.
- ☐ Re-establishing the load bearing capacity of cracked concrete.
- ☐ Filling of voids and honeycombs in concrete to restore the desired strength of the structure.
- ☐ Repair and filling of small and hairline cracks in re-enforced concrete structures.
- ☐ Injection of construction joints on pre-stressed concrete members at tendon couplings.
- ☐ Consolidation of friable rock or stone.
- ☐ Re-bonding and filling of delaminated concrete, screeds and tiles.
- ☐ As a bonding agent for new to old concrete.

PRODUCT FEATURES

- ☐ Ready-to-use work pack ensuring correct mixing.
- ☐ Low viscosity that permits reliable penetration into the minute porosity of the concrete
- ☐ Excellent adhesion
- ☐ Excellent mechanical properties
- ☐ Good chemical resistance
- ☐ Rapid-shrink free curing and early strength
- ☐ Impervious, resists hydrostatic pressure and blocks penetration of deleterious substances.
- ☐ Solvent free and can generally be used in confined spaces.
- ☐ Waterproof
- ☐ Moisture insensitive.

PACKAGING

Product	Packaging
CHEM-INJECT XLV40	0.375 Gallon (1.42 Liters) Unit*
	0.75 Gallon (2.84 Liters) Unit
	3 GAL (11.355 Liters) Unit
	15 Gallon (56.775 Liters) Unit

*This unit weight is 3.3 Lb (1.5 kg)

TECHNICAL DATA

Technical Data for Unmixed Parts

Property @ 25°C (77°F)	Part A Resin	Part B Hardener	Test Method
Solids, %	100	100	-
Color	Clear	Clear	-
Density, Lb/Gal (Kg/L)	9.4 (1.13)	7.9 (0.95)	ASTM D1475
Mixing Ratio A: B	≈2:1 By Volume		-
Shelf Life	2 years	2 year2	-

Technical Data for Mixed Parts

Property (Mixed A & B)	Value @ 25°C (77°C)	Test Method
Mixed Density, Lb/Gal (kg/L)	9 (1.08)	ASTM D-1475
Mixed Viscosity, cP	230	Brookfield
Gel Time @ 60 grams, minute	40	ASTM D-2471
Pot Life @ 2.20 Lb (1 Kg), minute	35	-
Shore Hardness @ 3 Days, D	80	ASTM D-2240
Compressive Strength @ 7 Days, Psi (MPa)	13532 (93.3)	ASTM D-695
Bond Strength to Concrete*, Psi (MPa)	2147 (14.8) Concrete Failure	ASTM C-882
Elongation (Average), %	4	ASTM D-522, Method A
Water Absorption 24 hrs, %	0.06	ASTM D-570
Final Cure, day	7	-

*Slant Shear

APPLICATION DATA

Limitations:

Minimum substrate temperature	41°F (5°C)
Minimum temperature of product for mixing	69°F (15°C)
Minimum temperature for curing	41°F (5°C)
Maximum temperature exposure for prolonged period	149°F (65°C)

Consumption: 2.2 Lb (1 kg) mixture of CHEM-INJECT XLV40 can seal approximately 3.61 yards (3.3) linear meter length of crack with 1 mm crack width and 11.81 inches (30 cm) concrete thickness (crack depth).

Injection of CHEM-INJECT XLV40:

Pre-treatment of Substrate: the substrates must be sound, preferably dry, clean and free from oil and grease. All loose material and laitance along the crack should be removed with suitable hand tools such as needle gun, wire brushes or angle grinders.

Injection Packers: two types of injection packers are available, adhesive (surfaces) packers and drilled packers. The selection of the packer type depends on the thickness of the substrate and the nature of the crack (width, depth, shape and propagation). The crack nature will affect the operating pressure used in the injection process. Normally, drilled packers can be operated at higher pressures.

Setting Injection Ports: the crack nature and substrate will affect the distance between the packers. Generally, packers should be installed at distances between 8 and 20 inches (approximately 20 and 50 cm) along the crack length.

Adhesive Packers are recommended mainly in dry or slight damp concrete. Adhesive packers are recommended for wide or surface cracks and when the substrate thickness is small. Injection of minor cracks is possible but subject to site inspection and demonstrations and will be dependent on slow operating injecting pressures.

Drilled Packers can be recommended for both dry and wet concrete and for all sizes and nature of cracks. Drilled packers can be installed along the crack length or alternating on both side of the crack length. When drilling on the side of the crack at 45-degree inclination a special care must be taken in insuring that drilled holes crosses the crack section.

Sealing of Cracks: after the completion of surface preparation and drilling the injection ports, clean the surface and injection ports adequately by dry and oil free compressed air. Adhesive packers should be fixed using CHEM-VERSATILE crack sealing compound. Drilled packers are installed and tightened in the drilled ports. Seal the crack length completely by applying a minimum of 2 inches (50 mm) band of CHEM-VERSATILE crack sealing compound. Allow the applied CHEM-VERSATILE to cure for minimum 8-12 hours before commencing the injection process.

Mixing: Find a suitable dry and clean container for mixing. Pour both parts "A" and "B" completely and mix thoroughly using a low speed electric drill fitted with mixing paddle (maximum 300 rpm). Mix from side to side and top to bottom until a fully homogenous mixture is obtained. Mix for 3-4 minutes, the prepared mix should be used up immediately within 40 minutes when mixed at 77°F (25°C).

Injection: pour the mixture of CHEM-INJECT XLV40 into a suitable injection pump. For a wall, commence the injection at the lowest point. For a slab, commence the injection at one side of the crack then progress to the adjacent packer, until the whole crack length is completely injected. Due to the low viscosity and long pot life of CHEM-INJECT XLV40 and with the adequate injection pressure, the injection resin will flow, fill and seal all voids and subsiding cracks.

Curing: allow CHEM-INJECT XLV40 to cure for at least 48 hours. Remove the adhesive packers with a hammer or cut-off the drilled packers using angle grinder. The cured CHEM-VERSATILE can be removed from the concrete surfaces using an angle grinder with concrete grinding disc or by flame scaling method with blow torch and scraping out the burnt CHEM-VERSATILE.

CLEANING

Remove uncured CHEM-FLOOR from tools and equipment with suitable solvents such as Xylene, Toluene or CHEM-CRETE BLENDED SOLVENT immediately after use. Cured material may only be removed mechanically. **Caution:** Solvents are flammable and also may affect the injection pump's seal if exposed to solvents for long period.

STORAGE

The product can be stored for minimum of twelve months at temperature from 50°F to 95°F (10°C to 35°C) in the unopened original packaging. Protect from direct sunlight.

SAFETY PRECAUTIONS

After hardening thoroughly, CHEM-INJECT XLV40 is physiologically harmless. Keep the resin and hardener away from the eyes mouth and skin. Do not breathe in the vapors. The uncured mixture can cause irritation of the skin. For best protection, wear rubber or plastic gloves. In case of contamination, wipe away resin or hardener immediately from the skin using paper towels and then wash with soap and water or hand cleaning detergent. Empty resin and hardener cans must be disposed according to local city code or regulations. Under no circumstances empty cans should be used to store food or drink even if they have been thoroughly cleaned. Follow all cautionary direction as printed on container's labels.

TECHNICAL ASSISTANCE

Please contact International Chem-Crete Corporation for Technical Personnel.

WARRANTY

LIMITED WARRANTY: International Chem-Crete Inc. warrants that, at the time and place we make shipment, our materials will be of good quality and will conform to our published specifications in force on the date of acceptance of the order.

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Manufactured By:

International Chem-Crete Inc, 800 Security Row, Richardson, TX 75081. U.S.A
Tel: (972) 671-6477, Fax: (972) 238-0307
contactus@chem-crete.com www.chem-crete.com