



CHEM-CRETE® FLEX FOAM CCC524

Two Component Low Viscosity Polyurethane Flexible Injection Resin, Expands 8 Times

PRODUCT DESCRIPTION

CHEM-CRETE FLEX FOAM CCC524 is a two component, non-filled, solvent-free, low viscosity and hydro active flexible polyurethane injection resin. Both components are formulated to form a flexible and impermeable seal where further limited movement of cracks and joints in concrete structures is anticipated. CHEM-CRETE FLEX FOAM CCC524 can be pumped using single or two component injection pumps.

FIELDS OF APPLICATION

- Injection of live cracks subjected to limited movements.
- Filling of damp and wet cracks in concrete, stone or masonry.
- Injection of leaking expansion joint and cold construction joints.
- Durable, impermeable sealing of water bearing cracks previously injected with CHEM-CRETE RIGID FOAM CCC530.
- Elastic sealing and filling of voids, honeycombs, etc. in concrete structures against active water infiltration.

CHEM-CRETE FLEX FOAM CCC524 is extensively used in the following fields:

- Dynamic Cracks in:
 - Floors and piers
 - Below and above grades
 - Bridge decks, underpasses and tunnels
 - Basements and abutments
 - Waste water treatment plants
 - Water reservoirs, tanks, swimming pools, etc.
 - Leaking expansion/construction/cold joints
 - Leakage in basements due to water ingress.

PRODUCT FEATURES

- Ready-to-use work packs that ensures correct mixing.
- Low viscosity that permits reliable penetration into the minute porosity of the concrete.
- Good adhesion to wet and damp concrete.
- Excellent flexibility.
- Cures to a flexible polyurethane expanded closed cell foam in wet conditions
- Impermeable to water and withstands constant water pressure.
- Solvent-free.
- Suitable for injection with one or two component injection pumps.

PACKAGING

PACKAGE	COMPONENT A – FOAM (CCC524)	COMPONENT B – ACCELERATOR (CCC524X)
1 KG (2.2 LB KIT)	30 OZ (0.9 LITER) CAN	1 OZ (30 MILLILITER) JAR
47.00 LB (21.26 KG) UNIT	45 LB (24.12 KG) PAIL	30 OZ (0.9 LITER) CAN
498 LB (226 KG) UNIT	463 LB (210 KG) FOAM	35 LB (15.9 KG) PAIL

TECHNICAL DATA

Technical Data for Uncured Parts

Property @ 25°C (77°F)	FOAM CCC530	ACCELERATOR CCC530X	Test Method
Solids, 100%	100%	100%	-
Viscosity @ 20°C (68°F), cPs	700	7	Brookfield
Color	Yellow	Transparent liquid	-
Density, Lb/Gal (Kg/L)	9 (1.08)	8.5 (1.02)	ASTM D1475
Flash point, °F(°C)	405 (270)	340 (170)	COC Method

Technical Data for Cured Parts

Property @ 25°C (77°F)	Value @ 25°C (77°C)	Test Method
Density, Lb/Gal (Kg/L)	9 (1.08)	ASTM D1475
Tensile Strength, psi (MPa)	60 (0.41)	ASTM C-882
Elongation	250%	ASTM D638

Reactivity: Free expansion up to 5 X original size. Expansion is dependent upon pH level of water and confinement.

APPLICATION DATA

Consumption: variable depending on moisture content and water pressure.

Limitations: application at ambient temperatures below approx. 5°C is not recommended. Exposure to temperatures exceeding 65°C for prolonged periods is not recommended.

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

Injection Packers: two types of injection packers are available, adhesive (surface) 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 than adhesive packers.

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

Adhesive Packers can be recommended mainly on dry or slight damp concrete. Adhesive Packers are recommended for wide or surface cracks and clear in nature 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 a slow and low 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 size of the crack length. When drilling on the side of the crack 45° inclination a special care must be taken in insuring that drilled holes crosses the crack section.

Sealing of Cracks: after the completing 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 GEL crack sealing compound. Drilled packers are installed and tightened in the drilled ports. Seal the crack length completely by applying a minimum of 50mm band of CHEM-VERSATILE GEL crack sealing compound. Allow the applied CHEM-VERSATILE GEL to cure for a minimum 8-12 hours before commencing the injection process.

Mixing: Pour the accelerator component "B" into component "A" and shake well for a minimum 2-3 minutes to insure a homogenous mix of the two components.

Pot Life: The mixed CHEM-CRETE FLEX FOAM CCC524 do not possess any pot life. The activation starts upon contact with water or moisture.

- Induction: 35-40 seconds the reaction starts.
- In 60-90 seconds, the water and resin start reacting.
- Complete reaction is 3-5 minutes and becomes like a creamy gel. This stage is considered tack free.
- Curing time is 3-5 minutes.

Injection: Pour the mixture of CHEM-CRETE FLEX FOAM CCC524 into a suitable injection pump. For a wall, commence the injection at the lowest point. For a slab, commence the injection at once 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-CRETE FLEX FOAM CCC524 and with the adequate injection pressure, the injection resin will flow, fill and seal all voids and subsiding cracks.

In the case that the concrete is dry, it is possible to inject the cracks with water. Allow the water to dissipate and damp the concrete surrounding the crack section before commencing the injection process.

Curing: Allow the injected resin to cure for at least 48 hours. Knock-off the adhesive packers with a hammer or cut-off the injection packers using angle grinder.

The cured **CHEM-VERSATILE GEL** can be removed from the concrete surfaces using angle grinder with concrete grinding disc or by flame scaling method with blowtorch and scrapping out the burnt **CHEM-VERSATILE GEL**.

Injection Works - Leaking/Water Bearing Cracks or Expansion Joints:

Injection Packers: Sealing of leaking cracks and bonding of adhesive packers onto the wet crack or cold/expansion joint is

usually not possible. Therefore, injection packers should be installed in wet conditions.

Inject CHEM-CRETE FLEX FOAM CCC524 through all injection packers ensuring the stop of water flow as it quickly reacts with water, foam and cures. This will ensure a complete durable and impermeable seal of water bearing cracks/expansion joints. Gushing water with high pressure might require an extra amount of CHEM-CRETE FLEX FOAM ACCELERATOR CCC524X Accelerator or the injection of CHEM-CRETE FLEX FOAM CCC524 first.

Curing: allow the injection resins to cure for 48 hours, before cutting the injection packers using angle grinders. Repair irregularities in the concrete surface using CHEM-VERSATILE GEL if needed.

QUICK REFERENCE CHART: depending on nature of the crack, different polyurethane resins can be injected:

- CHEM-CRETE RIGID FOAM CCC530: For non-moving cracks and gushing water-hydrophobic.
- CHEM-CRETE FLEX FOAM CCC524: For moving cracks, expansion joints or moving hairline cracks – hydrophobic.
- CHEM-CRETE HYDRO FOAM CCC526H: For moving cracks in continuously MOIST environments – hydrophilic.

Expansion dependent upon pH level of water and confinement:

CHEM-CRETE RIGID FOAM CCC530	For water cut off-large leaks Rigid material Expansion up to 16X Viscosity 150 cps at 21 °C
Chem-Crete Terra Foam CCC528	Soil stabilization Rigid material Free expansion up to 10X Viscosity 50 cps at 25 °C
Chem-Crete Flex Foam CCC524	Free expansion up to 5X Viscosity 700 cps at 20 °C
Chem-Crete Hydro Foam CCC526H	Nonflammable Viscosity 750 cps Free expansion up to 8X

Application	Rigid Foam	Terra Foam	Flex Foam	Hydro Foam
Dead Cracks	√		√	√
Live Cracks/Joints			√	√
Gushing Water	√		√	
Running Water	√	√	√	√
Rock Fissures	√	√	√	√
Cracked Concrete/Masonry	√		√	√
Porous Concrete/Masonry			√	√
Honeycombed Concrete			√	√
Expansion Joints			√	√
Day/Cold Joints			√	√
Soil Stabilization	√	√		
Stabilize Ground @ Headings	√	√		
Under Filling Foundations	√	√		
Tie Back Anchors	√	√		
Pre-grout Aquifers	√	√		
Grout Curtain	√	√		
Void Filling	√	√		
Hairline Cracks-Moving			√	√
Underwater Applications	√	√	√	√
Injection Tube			√	

CLEANING

Tools and equipment must be cleaned immediately after use, with CHEM-CRETE BLENDED SOLVENTS, Xylene, Toluene, etc.

Caution: Solvents are flammable and they may affect the seals of injection pumps if exposed to solvent for longer period.

STORAGE

The product can be stored in a dry, cool place for one year in unopened original packaging. Do not store below 5 °C or in direct sunlight. CHEM-CRETE FLEX FOAM CCC524 is sensitive to moisture and high storage temperature. Storage temperature should not exceed 26°C. Shel life is minimum 12 months in product's original unopened containers.

SAFETY PRECAUTIONS

After hardening thoroughly, CHEM-CRETE FLEX FOAM CCC524 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.

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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