# KEM EPOXY GROUT ELV N

## 2 pack low viscosity epoxy based injection resin

## Ref. CR/CI-M3-0822

## Description

KEM EPOXY GROUT ELV N is a two part, solvent-free, very low viscosity, low modulus epoxy resin system designed to seal cracks in dry concrete and masonry. It is suitable for repairing structural cracks.

Crack injection is normally carried out using suitable resin injection equipment. However due to its low viscosity KEM EPOXY GROUT ELV N can be easily applied using flooding technique, to treat horizontal cracks.

## Uses

For injecting into cracks in concrete or masonry, to prevent water seepages in areas such as concrete roads, pavements, bridges, basements, roofs, water reservoirs, swimming pools etc.

## Advantages

- Very Low viscosity ensures penetration into fine cracks.
- Can be used at temperatures between 5$^0$C to 40$^0$C
- Good adhesion to dry substrate and good water resistance of cured system.
- Good chemical resistance to salts, mild alkali's and acids, as well as fuels.
- No shrinkage ensures good sealing and bonding.

## Typical properties

**Mixing Ratio :** 3.5 :1

**Consistency :** Highly fluid liquid

**Brookfield viscosity Mixed(Mpas) :** 150

**Appearance Of Mix :** Yellow to Amber color

**Compressive strength as per ASTM C -109:**
68 N/mm$^2$ @ 30$^0$C

**Tensile strength as per ASTM C-307:** 12 N/mm$^2$

**Flexural Strength as per ASTM C-580:** 18 N/mm$^2$

**Workability :** 40 Min. @ 30$^0$C

**Specific gravity:** @ 25$^0$C (mixed) 1.05

**Application Temp. :** 10$^0$C-35$^0$C

**Complete curing time :** 7 Days.

**Glass transition temp :**>40$^0$C

## Application

**Surface Preparation**:

Clean the surface and remove any dust, unsound or contaminated material, paint, grease, corrosion deposits or algae. The surface may be prepared using high pressure water jetting, light abrasive blasting, cleaning with wire brush, detergent scrubbing or using degreaser. followed by thorough washing to remove dust and remaining particles. Dirt alone may be removed with wire cleaning, detergent scrubbing or the use of a appropriate degreaser. The effectiveness of decontamination can be accessed by applying the injection compound to the substrate and then using a pull-off adhesion test. Where ever possible the cracks shall be opened to form a V profile. If compressed air is used to blow the cracks and treated surface, ensure that it is oil free. Ensure that the surface and cracks are completely dry, prior to fixing the injection packers.

## Fixing injection packers

The injection packers shall be inserted into predrilled holes at marked intervals along the full length of each crack. The distance between each packer will depend upon the width and depth of the crack. Spacing shall be close enough to ensure that the resin will penetrate along the crack to the next injection point. The surface of the cracks between the packers shall be sealed with suitable sealing materials such as KEM GEL EP or a fast setting cementitious mortar. Both sides of any cracks which go all the way through a wall or slab shall be sealed in this way. The sealing compound shall be allowed to cure for 8 hours at 30$^0$C. At low ambient temperatures (5°C to 15°C) the curing time will be extended and the applicator shall ensure that the surface sealant has adequately cured prior to continuing. One of the injection hose shall be attached to the lowest packer on vertical cracks or to either end of the horizontal cracks.

## Application

Mix the entire hardener and base resin contents using hand or mechanical tools until the liquid becomes clear without any streaky appearance.

Mixed KEM EPOXY GROUT ELV N can be applied using standard injection equipment with closed containers (pressure pots) capable of working at pressures up to 1 $N/mm^2$ (1 bar).

- With plastic or foil lined cartridges using a hand operated skeleton cartridge gun at low pressures.
- By pouring into cracks directly or via a funnel. This is sometimes called the flooding technique. It is mainly used for cracks 0.25 mm to 5 mm wide in horizontal areas. The crack is chiseled out in a V-shape, 5mm deep and 10mm wide along the entire length of the crack being treated. Then the area is cleaned to remove all loose particles by using oil-free compressed air.

Mixed KEM EPOXY GROUT ELV N is then poured into the cracks and topped up as necessary until the crack is completely filled.

Following completion of the injection works the injection system shall be allowed to cure for 24 hours and shall not be disturbed during this time. For structural repairs, this could be up to 7 days.

**Finishing:**

Remove all injection packers make fill all holes or void with suitable repair product. The crack sealer can be ground off with an angle grinder or softened with a blow lamp and peeled off. Do not allow to burn. The surface around the crack may be then repaired using a suitable repair compound for aesthetic appearance.

## Limitations

It should not be used on moving cracks or where further movement is expected. It is not suitable in the presence of running water.

## Packaging

3 kg Pack

## Precautions

**Cleaning:** Spillages should be absorbed with sand or earth etc.& disposed in accordance with local regulations .

Tools, equipments & mixers may be cleaned with Solvent immediately after use. Hardened material can only be removed mechanically.

## Storage and Shelf Life:

Store in dry conditions up to $30^0$ C Shelf life is 12 months in original packing. If stored in high temperatures and/or high humidity conditions the shelf life may be reduced by 2 to 3 months.

**Fire resistance:** The product is non flammable but will burn in a fire.

## Health & safety

Uncured material should not come in contact with skin and eyes or be swallowed. Prolonged inhalation of the vapours must be avoided. Some people are sensitive to epoxy resins, therefore, protective gloves, goggles and barrier creams should be used. Ensure adequate ventilation and if working in enclosed areas, suitable breathing apparatus must be used. If mixed resin comes in contact with skin, it must be removed before hardening with a resin removing cream or soap, followed by washing with plenty of water. In case of accidental eye contamination, wash well with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately. Do not induce vomiting.

## Technical service

Chembond has established itself in various fields on the basis of its dependable technical service. For this purpose, we maintain a well equipped laboratory for research & quality assurance of all products. Our experienced personnel are always on call & would always be available for product demonstrations & product performance monitoring.

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