

Kesari Injector LV E70 is a high-performance, two-part, low-viscosity, moisture-insensitive injection liquid and crack-sealing resin based on high-strength epoxy. It is specifically formulated for structural crack injection and surface crack sealing in both dry and damp conditions, making it optimal for hot and tropical climates.

1. Technical Specifications & Compliance

Property	Specification / Value
Chemical Base	High-strength epoxy resin (solvent-free)
Component Structure	Two-component (Part A: Colorless liquid, Part B: Pale yellow liquid)
Mixing Ratio	4 : 1 (Part A : Part B by weight)
Viscosity	~250 mPa·s at +30°C (ensures deep penetration into micro-cracks)
Density	~1.08 kg/L (Mixed at +27°C)
Compressive Strength	~70 N/mm ² (7 days, +30°C, ASTM D695)
Tensile Strength	~50 N/mm ² (7 days, +30°C, ASTM D638)
Flexural Strength	~50 N/mm ² (7 days, +30°C, EN 196-1)
Standard Compliance	Conforms to ASTM C881 , Type II and IV, Grade-1, Class F
Shelf Life	12 months in original, unopened, undamaged packaging stored between +5°C and +40°C.

2. Key Advantages & Features

- **Moisture Insensitive:** Cures and forms high bond strengths reliably in both dry and damp/wet cracks (with no standing water).
- **Shrinkage-Free Hardening:** Cures completely without volumetric shrinkage, ensuring full mass integrity inside the crack.
- **Low Viscosity:** Flows effortlessly deep into narrow fissures and micro-cracks down to structural depths.
- **High Mechanical Properties:** Provides exceptional structural load-transfer capabilities with high compressive, tensile, and flexural strengths.

- **Pump Compatible:** Easily injected using standard single-component mechanical or manual injection pumps.

3. Recommended Areas of Application

- **Structural Crack Injection:** Beams, columns, load-bearing walls, foundations, and slabs.
- **Surface Treatments:** Sealing non-moving static cracks in interior and exterior concrete slabs.
- **Infrastructure & Heavy Traffic Zones:** Roof slabs, multi-level parking structures, and bridge decks exposed to vehicular and pedestrian load.
- **Maximum Crack Width Limit:** Effective for structural cracks up to **5 mm** wide (contact technical services for larger fissures).

4. Surface Preparation, Drilling, Nozzle Fixing & Injection Procedure

A. Surface Preparation

1. **Concrete Soundness:** Ensure the concrete substrate is structurally sound, clean, and free from oil, grease, old coatings, laitance, or loose debris.
2. **Crack Cleaning:** Clean the crack lines thoroughly using wire brushing, mechanical grinding, or oil-free compressed air to remove all trapped dust and contaminants.

B. Hole Drilling (For Packer / Injection Nozzle Installation)

1. **Drilling Angle:** Using a rotary hammer drill, drill holes diagonally intersecting the crack plane at an alternating angle (approximately 45° to 60° to the concrete surface) or directly along the crack depending on packer type.
2. **Hole Spacing:** Space the holes approximately **20 cm to 30 cm** apart along the path of the crack.
3. **Debris Removal:** Clean out all drilled holes thoroughly using oil-free compressed air and a nylon brush to eliminate drilling dust, ensuring a strong bond for the packers.

C. Nozzle / Packer Fixing Method

1. **Insertion:** Insert mechanical packer nipples (or surface-mounted injection ports/nipples) securely into the drilled holes or directly over the crack lines.
2. **Surface Sealing:** Seal the entire exposed length of the crack (between the injection ports) and the base of any surface-mounted ports using **Sikadur-31** epoxy paste.
3. **Curing:** Allow the epoxy surface seal and adhesive fixing to cure completely (typically 12 to 24 hours depending on ambient temperature) before commencing pressure injection to ensure no resin blows out under pressure.

D. Mixing Instructions

1. **Pre-batched Units:** Pour all of Part B into the Part A container.
2. Mix using an electric low-speed paddle mixer (maximum 250 rpm) for at least **3 minutes**, taking care to avoid entraining air.
3. For bulk packaging, strictly weigh out components at the **4:1** ratio in a clean, dry mixing container.

E. Pressure Injection Process

1. **Sequential Pumping:** Inject **Kesari Injector LV E70** using a single-component manual or mechanical injection pump, starting from the lowest port on vertical elements or one end on horizontal elements.
2. **Progression:** Continue pumping at a given port until the mixed epoxy resin begins to flow out of the adjacent upper or side port.
3. **Capping & Completion:** Cap or close the active port tightly, then move your injection hose to the next adjacent port and repeat the sequence until the entire crack length is fully saturated. Once the resin has fully cured, grind off the surface sealing material and packers, and patch the port holes with repair mortar.