

# PENTENS LP-504

## Low Pressure Epoxy Crack Injection System

### Product Data Sheet

#### Description

Semi-flexible and flexible sealants are usually the best solution for crack and joint-related problems. Nevertheless there are conditions where structural repair is necessary and specified. Structural strength is achieved by using PENTENS LP-504 Low Pressure Epoxy Crack Injection System. Due to the unique properties of this system, it is possible to inject epoxy deeply into concrete joints, hairline cracks and fissures. PENTENS LP-504 Low Pressure Epoxy Crack Injection System provides high bonding and compressive strength and it helps to restore cracked concrete to a complete monolithic piece. The low pressure injection method is more popular in epoxy resin injection and usually achieve good results.

Although most epoxy injection can be performed with single-component polyurethane injection equipment, it is recommended to use specialised epoxy injection gear to meet the specific material properties. The epoxy reacts within a certain gel time just by itself.

#### Uses

Areas of application include:

- Floor slabs
- Suspended floors
- Bridges
- Steel and iron
- Industrial construction
- Columns
- Prefabricated elements
- Small cavities
- Static cracks
- Basements and fountains

#### Advantages

- Negative side application applicable.
- Deep penetration into very small cracks.
- Increases in volume to fill cavities and voids.
- Non-flammable.
- Easy mixing, convenient mixing ratio.
- Does not create new cracks.
- Non-toxic.
- Non-shrinking.
- High mechanical and adhesive strength.

#### Technical & Physical Data

Form	Liquid
Color	Transparent
Mixing Ratio	A:B=2:1
Density	1.10kg per litre
Viscosity	At 20°C : 300 cps At 30°C : 140 cps
Limits	-Minimum admissible substrate temperature 18°C  -Maximum admissible substrate temperature 43°C  -Maximum crack width 3mm -Minimum crack width 0.1mm (approximate)
Adhesive Strength	At 20°C, 65% RH, 10 days Concrete: 3.5N/mm <sup>2</sup> (concrete failure) Steel: 15N/mm <sup>2</sup> (steel sand blasted)
Tensile Strength	27N/mm <sup>2</sup>
Curing	Initial: 24 hours at 20°C Final: 3-5 days at normal temperatures.
Pot Life	At 20°C : 60 minutes At 30°C : 35 minutes At 40°C : 18 minutes
Shelf Life	Minimum 12 months in its original unopened containers.
Storage Condition	Store in a cool, dry place.
Packaging	
(A:B=10:5)	15kg /set
(A:B=20:10)	30kg /set

## Important Notes

1. PENTENS LP-504 is a highly reactive mixture with a short pot life characteristic. The reaction develops heat and a considerable increase in the mixture temperature. This result in reduce of the mixture's pot life. PENTENS LP-504 can be rapidly injected into the crack but never prepared in large quantities.
2. The width of the crack should not exceed 5 mm.
3. The consumption of material depends entirely on prevailing conditions. It is recommended to make a careful estimation of consumption prior to the execution of the work and reserve sufficient materials. When injecting load-bearing cracks in reinforced concrete structures, care must be taken to eliminate the load causing the crack as new cracks in different areas may appear.
4. Injection with synthetic resin compounds required the cooperation of experienced specialists and trained workers. Consult with PENTENS Technical Department Representative for assistance.

## Instruction for Use

### Step 1

Surfaces must be clean and sound. Remove all dirt, grease, wax, curing compounds and other foreign matter. Roughen surface with wire brush or wire wheel.

### Step 2

Prepare a small surface sealing material to use as an adhesive for setting ports. Apply a thin bead of PENTENS EPTM A/B around the perimeter of the port base.

Centralise barrel of port over crack and press into place. Be careful not to plug the opening at the bottom of the port.

### Step 3

Mix additional surface seal material - PENTENS EPTM A/B. Use a putty knife or margin trowel to seal off the cracks and around the base of each port. Force apply using putty knife or margin trowel while sealing in order to ensure proper bonding to the roughened concrete surface. Apply a layer of approximately 3mm thick by 30mm wide material over the center of the crack.

### Step 4

Make sure the sealant is cured before starting the injection. Mix PENTENS LP-504 (A:B= 2:1) and fill into the packer. Install the packer on the port and fit the rubber squeeze on the packer and start resin flow into the cracks.

### Step 5

Allow the PENTENS LP-504 to cure. The waiting time is usually between 4-10 hours depending on the temperature.

### STEP 6

Once the injection work is complete, remove the packer and port. Use the electric grinder to remove excessive cure sealant.

## Safety

Impervious gloves and barrier cream should be used when handling these products. Eye protection should be worn. In case of contact with eyes, rinse with plenty of water and seek medical advice if symptoms persist. If contact with skin occurs, it must be removed before curing takes place. Wash off with an industrial skin cleanser followed by plenty of soap and water. Do not use solvent. Ensure adequate ventilation when using these products.

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