

# DENEPOX 40 CE

An ultra-low viscosity, two-component epoxy injection resin for structural injections in concrete, and can be used in a dry or wet environment.

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## Product Description

Two-component epoxy resin, which cures into a rigid compound in wet and dry conditions.

## Field of Application

- Low pressure injection for the structural bonding of cracks and microcracks in dry or wet concrete.
- Bonding and anchoring.
- Sealing of porous low density concrete.
- Denepox 40 is not suited for applications in contact with moving water.

## Product Advantages

- Insensitive to humidity.
- Cures in damp/wet environment.
- Low viscosity: deep penetration in the cracks.
- Very good adhesion: exceeds the cohesion of the concrete.
- Non-solvent.
- Long pot life.
- Cured Denepox 40 is resistant to acids, alkalis, oils, greases and petroleum derivatives (\*)

(\*) For chemical resistance please contact your local GCP representative.

## Appearance

A-component Epoxy resin, transparent

B-component Polyamine hardener, light yellow

Colour Transparent

Mixing ratio by weight: 100:30

## Consumption

Has to be estimated by the engineer or operator and depends on width and depth of the cracks and voids.

## Technical Data / Properties

| Property                        | Unit               | Value                     | Standard    |
|---------------------------------|--------------------|---------------------------|-------------|
| Bond strength to dry concrete   | MPa                | Exceeds concrete cohesion | EN 1542     |
| Bond strength to damp concrete  | MPa                | Exceeds concrete cohesion | EN 1542     |
| Compressive strength            | MPa                | Approx. 100               | NBN EN 196  |
| Tensile strength                | MPa                | '> 50                     | ISO 527     |
| Flexural strength               | MPa                | '> 60                     | NBN EN 196  |
| Glass transition temperature    | °C                 | < 60                      | EN 12614    |
| Density at 25 °C                | Kg/dm <sup>3</sup> | Approx. 1.1               | EN ISO 2811 |
| Viscosity at 25 °C              | mPa.s              | Approx. 85                | EN ISO 3219 |
| Pot life (100g at 25 °C)        | Min                | Approx. 80                |             |
| Minimum application temperature | °C                 | 10                        |             |

Full chemical resistances are only reached after a curing period of 7 days at 20 °C. Mechanical properties of epoxy resins decrease at temperatures higher than 50 °C.

## Accessories

To be ordered separately

- Pumps.
- DE NEEF® Washing Agent Eco
- Packers and connectors.

(Please consult the relevant data sheet).

## Application

**1. Surface preparation.** Surfaces to be repaired or sealed need to be clean and sound. The concrete surface must be free of dust, laitance, sealers, grease or any other contaminants that might influence bonding of the resin to the concrete

**2. Injection ports.** Entry ports for injecting should be approved devices spaced at appropriate intervals to accomplish full penetration of the resin into the cracks or voids.

- Drilled ports

Drilling of cracks for packers needs to be executed in accordance with local regulations. After drilling the hole, insert packer.

- Glued ports (plastic or metal)

The injection ports should be fixed to the surface of the crack with Multitek Adhesive SDW.

Apply a layer of Multitek Adhesive SDW, polyester paste or fast curing cement to the surface of the crack.

**3. Mixing.** Mix the pre-weighted quantities of resin (A-component) and hardener (B-component) with a low speed mixer (300rpm) until a homogeneous liquid is obtained. Never mix more material than the quantity that can be used up within 60 minutes.

Heat is generated by the exothermic reaction when Components A and B are mixed and temperatures will increase over time. Do not mix more than 500 g at a time or leave more than 500 g of material in the injection equipment for a period longer than 60 minutes to prevent production of intense heat and smoke.

#### MIXING RATIO A B

|           | Component A | Component B |
|-----------|-------------|-------------|
| By weight | 100         | 30          |
| By volume | 89,5        | 32          |

**4. Injection.** The crack can be injected with a manual (single piston) pump or a mechanical (single or double piston) injection pump

Initial hardening time: approx. 24h at 20°C

Uncured material and equipment should be cleaned with DE NEEF®Washing Agent Eco

## Packaging

3kg set

A-component: metal pail

Net : 2.3kg (Gross: 2.47kg)

B-component: metal pail

Net : 0.7kg (Gross: 0.78kg)

1 box

5 pails of A-component and 10 pails of B-component

1 pallet

16 boxes of A-component and 8 boxes of B-component

## Storage

DE NEEF®Denepox 40 is sensitive to moisture and should be stored in original containers in a dry area. Storage temperature must be between 5°C and 50°C. Once the packaging has been opened, the useful life of the material is greatly reduced and it should be used as soon as possible. Shelf life: 2 years.

## Health and Safety

Read and understand the product label and Safety Data Sheet (SDS) for each system component. All users should acquaint themselves with this information prior to working with the products and follow the precautionary statements. Always wear protective clothing, gloves and protective goggles. SDSs can be obtained by contacting your local GCP representative or office.

## Certification

|   |                                    |
|---|------------------------------------|
|   |                                    |
| De Neef Construction Chemicals BV<br>Industriepark 8<br>B-2220 Heist-op-den-Berg<br>Belgium<br>09       |                                    |
| EN 1504-5<br>Concrete Injection<br>Force transmitted filling of cracks<br>U (F1) W(3) (1/2) (10/40) (0) |                                    |
| Adhesion By Tensile Bond Strength   | ≥ 2N / mm <sup>2</sup>             |
| Adhesion By Slant Shear Strength  | Monolithic failure                 |
| Shrinkage   | 3%                                 |
| Glass Transition Temperature  | > 40 °C                            |
| Workability   | Crack width from 0.3mm             |
| Moisture State Of The Crack   | Dry and damp                       |
| Durability  | Pass                               |
| Corrosion Behavior  | Deemed to have no corrosive effect |
| Dangerous Substances  | Complies with 5.4                  |

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