

Two-component epoxy injection resin for cracks 0.5-3.0 mm wide

Description

EPOMAX-L10 is a two-component, colorless epoxy system, without solvents, offering very strong adhesion to concrete and steel, as well as high compressive and flexural strength, even when applied on damp substrates. It complies with the requirements of ASTM C 881-90, Type I, Grade 1, Class B+C. It is classified as a product for concrete injection, according to EN 1504-5. Certificate Nr. 2032-CPR-10.11.

Fields of application

EPOMAX-L10 is used to repair concrete cracks 0.5-3.0 mm wide by injection, in order to bond and restore the original monolithic structure. It is also used to install and anchor reinforcement rods into existing concrete elements.

Technical data

Basis:	two-component epoxy resin
A-component color:	transparent
B-component color:	yellow transparent
A+B color:	yellow transparent
Viscosity:	200 ± 40 mPa·s at +23°C
A-component density:	1.10 ± 0.03 kg/lit
B-component density:	1.00 ± 0.03 kg/lit
A+B density:	1.08 ± 0.03 kg/lit
Mixing ratio (A+B):	100:23,5 by weight
Pot life:	approx. 45 min at +20°C
Water Absorption: (ASTM D 570)	0.62% w/w after 7 days

Minimum hardening temperature:	+8°C
Final strength:	after 7 days at +23°C
Adhesion by tensile bond strength: (EN 12618-2)	4.9 N/mm ²
Adhesion by slant shear strength: (EN 12618-3)	Monolithic failure
Volumetric shrinkage: (EN 12617-2)	1.7 %
Glass transition temperature: (EN 12614)	≥ 74 °C
Workability:	
▪ Minimum crack width:	0.5 mm.
▪ Suitable for injection into dry and slightly damp medium.	
(EN 12618-2)	
Durability: (EN 13733)	Pass*

**The compressive shear load at failure after exposure to thermal cycling shall not be less than the lowest tensile strength of the bonded or the original concrete.*

Corrosive behavior:	No
Compressive strength: (DIN EN 196-1)	70 N/mm ²
Flexural strength: (DIN EN 196-1)	63 N/mm ²
Tensile strength: (ASTM D 638)	25.7 N/mm ²
Elongation at break: (ASTM D 638)	2.2%

Cleaning of tools:
Tools should be cleaned with SM-25 solvent or water, immediately after use.

Directions for use

1. Substrate preparation

The application surface should be free of materials that prevent bonding, e.g. dust, grease, loose particles etc. and without standing water.

2. Mixing of the components

Components A (resin) and B (hardener) are packed in two separate containers, having the correct predetermined mixing proportion by weight. The whole quantity of comp. B is added into comp. A. The components should be mixed for about 5 minutes, using an appropriate hand tool (e.g. small trowel). It is important to stir the mixture thoroughly near the sides and bottom of the container, in order to achieve uniform dispersion of the hardener. In case less quantity is required than the one available in the package, 4 parts by weight of comp. A and 1 part by weight of comp. B should be poured into a clean container and mixed as above.

3. Application procedure

A) Resin injections

1. Remove any existing plaster on either side of the crack and thoroughly clean the concrete substrate.
2. Seal the crack using EPOMAX-EK and fix injection nozzles along the crack, approx. every 20 cm, with the same product.
3. After EPOMAX-EK has hardened, start injecting EPOMAX-L10 into the crack, by pressing the material through the nozzles, following this procedure:
 - a) Place the resin outflow tube (e.g. spirit level tube) in the first nozzle. For a horizontal crack, start from one end. For a vertical crack, start from the lowest nozzle.
 - b) Inject into the first nozzle by adjusting the outflow valve of the compression boiler, until EPOMAX-L10 begins to

flow out of the adjacent nozzle or until no further pressure can be applied.

- c) Cap the first nozzle and continue the injection through the next nozzle.
- d) Repeat this process until the entire length of the crack has been treated. Allow the material to cure and the next day, remove (break) the beetling nozzles and restore plastering.

B) Anchoring

Open holes of a bigger diameter than the rods to be installed and as deep as possible. For vertical elements, holes should not be opened horizontally, but in a dipping direction (downwards). Blow compressed air to clean the holes. Pour EPOMAX-L10 into the holes in a quantity slightly bigger than necessary, so that putting the rod inside the hole will cause the material to flow out.

Consumption

To fill an empty space of 1lit, approx. 1.1 kg EPOMAX-L10 is required.

Packaging

EPOMAX-L10 is supplied in packages (A+B) of 1 kg and 3 kg, with components A and B having a fixed proportion by weight.

Shelf-life - Storage

12 months from production date, if stored in original sealed packaging, in areas protected from humidity and direct sun exposure. Recommended storage temperature: between +5°C and +35°C.

Remarks

- The workability of epoxy materials is affected by temperature. The ideal temperature of application is between +15°C and +25°C, for which the product

EPOMAX-L10



obtains optimal workability and curing time. Room temperature below +15°C will expand the curing time, while temperatures above +30°C will reduce it. It is recommended to mildly preheat the product in the winter, and store the product in a cool room before application in the summer.

- After hardening, EPOMAX-L10 is totally safe for health.
- Before application, consult the directions for safe use and the precautions written on the package.



2032

ISOMAT S.A.

17th km Thessaloniki – Ag. Athanasios
P.O. BOX 1043, 570 03 Ag. Athanasios, Greece

10

2032-CPR-10.11

EN 1504-5

DoP No:EPOMAX-L10/1805-02

Concrete injection product

U (F1) W (5) (1/2) (8/35) (1)

Force transmitting and filling of cracks

0.5 mm

Dry and damp cracks

8 °C to 35 °C

Adhesion by tensile bond strength: cohesive failure in the substrate

Adhesion by slant shear strength: monolithic failure

Volumetric shrinkage: < 3.0 %

Glass transition temperature: ≥ 40 °C

Workability

Crack width from 0.5 mm

Moisture state of the crack: dry and damp

Durability: Pass

Corrosive behavior: deemed to have no corrosive effect

Dangerous substances: comply with 5.4

ISOMAT S.A.

BUILDING CHEMICALS AND MORTARS

MAIN OFFICES - FACTORY:

17th km Thessaloniki - Ag. Athanasios Road,
P.O. BOX 1043, 570 03 Ag. Athanasios, Greece,
Tel.: +30 2310 576 000, Fax: +30 2310 722 475

www.isomat.net e-mail: info@isomat.net