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REPIKIT EP 310

CARTRIDGE EPOXY ADHESIVE FOR STRUCTURAL INJECTIONS

Low viscosity, solvent-free, bi-component epoxy resin-based structural adhesive to strengthen through injections, cracks, fissures and damages in the building and civil engineering sector.

Areas of use

REPIKIT EP 310 is used to carry out structural strengthening injections in passing and blind cracks not larger than 1 – 2 mm wide on compact materials like concrete, bricks, stone, tuff, wood and more in general for:

- Concrete structural welding of beams, pillars and civilian engineering works;
- Strengthening of damaged concrete, solid brick, rock or stone masonry (in this case by previously filling in voids with fluid cement mortar);
- Fixing of steel and plastic reinforced by fibreglass fixed to wood and concrete connectors and with comb stitch of structural damages;
- Gluing of steel-concrete-wood elements, composite slab connectors with wooden beams, window sills, steps, unglued cement screeds.

Features

REPIKIT EP 310 structural adhesive is ready to use: it is supplied as a cartridge with all necessary tools to carry out injections with hand or compressed air gun.

Due to its low viscosity, the product allows to block even narrowest cracks inside walls assuring an high contact surface and therefore an efficient bonding.

After mixing components inside the cartridge, its contents must be fully used.

- The system features internal mixing with pre-weighed resin and hardening agent which are packaged in two separate chambers in a cartridge;
- It ensures high mechanical properties;
- Excellent adhesion to all building materials with dry or damp bottom;
- Practical and safe use with hand gun or compressed air gun with pressure up to 15 atm;
- High work safety and sanitary conditions of the work: the operator never gets in contact with the product;

REPIKIT has been patented and standardized with PATENT no. 86810563.6

How to use

The system is made of: a cartridge with the product, connecting or injection hose, nipples or nonreturn valve (to be applied on the wall where the chosen injection point is) and a breather pipe.

Preparation of the support

Open the crack or injection point well by removing crumbly parts with an abrasive disc, brush or scraper. Thoroughly clean using a vacuum cleaner or compressed air.

Fix the nipples 20 – 30 cm one from the other, applying epoxy stucco like RESICOL 100 or REPIKIT 315 on the back of the nipple, then press it slightly against the crack or the injection point.

Carefully seal the crack using the same epoxy stucco and by using a small spatula or brush. Let it harden for 4 – 12 hours depending on the temperature.

Preparation of the product

To mix the resin and hardener you have to break the glass ampoule containing the hardener beating the cartridge in the spot indicated on the label, then shake the contents gently back and forth for 2-3 minutes without slamming.

Application

Insert the cartridge in the gun, attach the connecting rod to the nipple in the lowest injection point and fix it well using the threaded ring. Insert a breather pipe in one of the next nipples and then start pumping. When the resin appears in the upper nipple, remove the injection pipe and joint it the same way to the next nipple: continue until complete filling of the crack.

After a few minutes repeat the operation to restore the material absorbed by the support.

When hardening is complete, which takes 1 – 15 hours, remove the nipples and stucco on the surface using a chisel and level out using an abrasive disc.

Notes

Carefully examine the crack or cleft before starting an injection process: REPIKIT 310 is recommended especially for passing cracks in compact building materials (e.g. concrete) when it is possible to know their depth and length to calculate the volume and therefore the quantity of material necessary for complete filling. We recommend marking the points where injection nipples are going to be glued.

Technical characteristics

Compression strength	(ISO 604)	> 90 N/mm ²
Tensile strength	(UNI EN ISO 527)	63.5 N/mm ²
Ultimate elongation	(UNI EN ISO 527)	1,3%
Resistance to bending and traction	(ISO 178)	70 N/mm ²
Traction elasticity modulus		3940 N/mm ²
Adhesion to dry concrete (*)	(ISO 4624)	> 4.5 N/mm ²
Adhesion to damp concrete (*)	(ISO 4624)	> 2.5 N/mm ²
Adhesion to steel		3 N/mm ²
Viscosity	(EN ISO 3219)	631 cP
Density at 25 °C		1.10 kg/dm ³

Values achieved after 7 day hardening at 25 °C

(*) adhesion test carried out through direct traction.

Use and hardening times

When mixing the reaction between the two components starts: time available is therefore limited and it depends on the temperature.

Temperature	Use (pot-life)	hardening
10°C	90'	12 h
20°C	35'	7 h
30°C	20'	5 h
40°C	10'	3 h

Full hardening after 7 days.

Consumption

A cartridge has enough material to fill a volume of 0.25 dm³.

Packages and storage

Kit of 12 cartridges	250 ml each (300 g)
Nipple with nonreturn valve	Bag with 30 pieces
Breather pipe	Bag with 4 pieces
Tube with no nonreturn valve with metal ring joint	Bag with 6 pieces

Cleaning of tools and health precautions

To clean tools use solvents such as RESISOLV 111, RESISOLV 196 or alcohol.

Epoxy resins and hardening agents may cause irritations: please avoid any contact with the skin and especially with the eyes and ensure proper ventilation during use.

Wear gloves, protective suit, goggles or protective visor. People who have to work with epoxy resins for long periods are advised to use protective creams.

In case of contact with the skin, immediately clean with a cloth soaked in denatured alcohol and wash with water or neutral soap or handwash paste. Then use a nourishing cream.

In case of contact with eyes or mucosa, do not use alcohol. Rinse immediately with running water and neutral soap for 10/15 minutes, then seek medical advice.

Do not rinse with solvents.

The information supplied in this sheet is the result of the best practical and laboratory experiences of RESIMIX, which guarantees its products when used according to the instructions supplied. It is nonetheless up to the customer to ensure the product is suitable for the intended use. The manufacturer declines any responsibility for incorrect use or uses beyond his control. RESIMIX reserves the right to make changes to the data. For any request, please contact the RESIMIX Technical Assistance Office.