RESIMIX®
ADVANCED MATERIALS FOR THE BUILDING INDUSTRY

REPIKIT 312

CARTRIDGE SLIGHTLY THIXOTROPIC EPOXY ADHESIVE FOR STRUCTURAL INJECTIONS

Medium 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.
REPIKIT has been patented and standardized with PATENT no. 86810563.6.

Areas of use

REPIKIT 312 is used to carry out structural strengthening injections in passing and blind cracks or 1 to 3 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;
- Strengthening of structural elements using beton-plaquet technique;
- Gluing of steel-concrete-wood elements, composite slab connectors with wooden beams, window sills, steps, unglued cement screeds.

Features

REPIKIT 312 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 slightly thixotropic consistency, the product has low viscosity when subject to kinetic force (injection pressure) and high viscosity when it is in a quiet state. Injected material easily penetrates even in the thinnest injections and once injection pressure stops, it thickens and hardens without further casting and spreading.
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;

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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.

Support preparation
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 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 with the hardening agent make a hole in the aluminium seal on the head of the cartridge and slowly insert the stirring rods until the stop. Screw the rod clockwise and carefully push it to the bottom of the cartridge. Move the rod backwards and forwards for at least 3÷4 minutes until complete blending. Remove the rod by turning it counter-clockwise, then unscrew the cone-shaped spout of the cartridge and screw the connecting hose in its place.

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 metal 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.
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 312 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 features

Compression strength	(ISO 604)	> 60 N/mm^2
Tensile strength	(UNI EN ISO 527)	> 30 N/mm^2
Ultimate elongation	(UNI EN ISO 527)	~ 1,2 %
Traction elasticity modulus		~ 5630 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
Density at 25 °C		1,45±5 kg/dm^3

Values achieved after 7 day hardening at 25 °C
(*) adhesion test carried out through direct traction.

Temperature	Viscosity
10 °C	10000÷20000 cP
20 °C	4000-6000 cP
30 °C	2000-3000 cP

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Hardening time

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	> 60''	15 h
20°C	30'	8 h
30°C	15'	6 h
40°C	< 10'	4 h

Full hardening after 7 days.

Consumption

A cartridge has enough material to fill a volume of about 0,25 dm^3.

Packaging and storage

Kit of 12 cartridges	207 mℓ each (300 g)
Nipple with non-return valve	Bag with 30 pieces
Air releaser	Bag with 4 pieces
Tube with no non-return valve	Bag with 6 pieces
T-shaped rods	4 pieces

In original and closed packages, the product remains unchanged for at least 18 months if it is kept in an environment with a temperature between 10 and 30 °C.
Do not expose containers to frost, heat sources and sunlight.

Cleaning of tools and health precautions

Before handling the product consult the relative safety data sheet.

To clean tools use solvents such as ethyl 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.

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