EPOJET LV

Two-component epoxy resin, with very low viscosity for injection in microcracks, also on wet surfaces

WHERE TO USE

- Monolithic crack sealing.
- Bonding of steel plates to concrete (béton plaqué) by low-pressure injection.

Some application examples

- Structural repair of cracked beams, columns and floors by low-pressure injection.
- Reinforcement of beams and floors with the béton plaqué technique by injection, in cases where the plates are "U" shaped and therefore direct use of **Adesilex PG1** or **Adesilex PG2** is not possible.
- Restoration of facade elements, coverings, and detached architectural elements.
- Structural consolidation and repair of road works, underground, civil and industrial works with micro-cracks.
- Sealing of cracks present in cementitious screeds.
- Restoration, by injection, of concrete structures damaged by earthquakes, settlements or impacts.

TECHNICAL CHARACTERISTICS

Epojet LV is an epoxy adhesive made of two pre-measured components (component A = resin and component B = hardener) that must be mixed together before use.
Once mixed, **Epojet LV** becomes a very fluid liquid that can easily penetrate even in microcracks.
Epojet LV cures without significant shrinkage, also on wet surfaces and once hardened is waterproof and resists chemical agents present in the air. It also possesses excellent dielectric properties and high mechanical strength.
Epojet LV complies with the principles defined in EN 1504-9 ("*Products and systems for the protection and repair of concrete structures: definitions, requirements, quality control and evaluation of conformity. General principles for the use of products and systems*"), and the minimum requirements of EN 1504-5 ("*Concrete injection*").

RECOMMENDATIONS

- Do not use **Epojet LV** if the temperature is lower than +10°C.
- Do not apply **Epojet LV** on dusty, crumbling or weak substrates.
- Do not use **Epojet LV** for sealing expansion joints.

APPLICATION PROCEDURE

Preparation of the substrate

Before injecting the product, the concrete surface must be perfectly clean and sound.

Sealing cracks by injection

Drill a series of 8-9 mm diameter holes distributed on the sides of the cracks and oriented to intercept the cracks themselves. Blow out the cavities with compressed air to remove all the dust formed during the drilling.
Insert the appropriate injection tubes into the holes and seal with **Adesilex PG1** or **Adesilex PG2** the working surface.
In cases where drilling cannot be carried out due to the very small size and considerable branching of the cracks, employ injectors with flat ends to be placed over the same cracks and attached to the concrete with expansion screws or directly with **Adesilex PG1** or **Adesilex PG2**.
Wait until **Adesilex PG1** or **Adesilex PG2** is cured (at least 12 hours) and then inject compressed air to make sure the injection circuit is fully open.

Positioning the steel reinforcement and injection

Remove all traces of rust or grease from the reinforcing element by sandblasting to white metal (SA 2½).
Once these preparation procedures have been completed, securely fix the steel plates to the concrete with expanding bolts. Position the injectors in the space between the structure and the plate reinforcements and seal with **Adesilex PG1** or **Adesilex PG2**. The latter product has longer workability times than **Adesilex PG1**.
With the same product, also seal the space between the concrete structure and the reinforcing element.
After curing of **Adesilex PG1** or **Adesilex PG2** carry out the injection with **Epojet LV** through the injectors.

Preparation of the product

The two components which make up **Epojet LV** must be mixed together.
Pour Component B into Component A and mix manually with a trowel (for small packages) or with a drill fitted with a low-speed stirrer (for larger packages) until perfectly homogenized, avoiding entraining air.
Do not use partial quantities of the components to avoid making dosage errors when mixing, otherwise **Epojet LV** may not harden correctly.
In case the packages are to be used partially, use a precision electronic scale.

Application of the product

Inject immediately after preparation **Epojet LV** with suitable pump starting from the lowest placed tube until the resin flows out of the next injector. Close the tube used for injection and continue injecting **Epojet LV** from the one placed just above, until the gap is completely sealed.
In the case of horizontal cracks, these can be sealed by pouring **Epojet LV**.
Epojet LV should be applied within 35 minutes after preparation at a temperature of +23°C.
Avoid using **Epojet LV** when the outdoor and substrate temperature is below +10°C.

CLEANING

Due to the strong adhesion of **Epojet LV** also on metal, it is recommended to wash the working tools with solvents (ethyl alcohol, toluol) before the product dries.

CONSUMPTION

- Crack sealing: 1.1 kg/l of cavity to be filled.
- Bonding steel and concrete: 1.1 kg/m² per mm of thickness.

PACKAGING

- 5 kg kit (component A = 4 kg - component B = 1 kg).
- 2.5 kg kit (component A = 2 kg - component B = 0.5 kg).

STORAGE

24 months in its original packaging. Store the product in an area with a temperature of at least +5°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

When the product reacts, it generates considerable heat. After mixing components A and B, we recommend applying the product as soon as possible and never leaving the container unattended until it is completely empty.
Instruction for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.com.
PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY		
	Comp.A	**Comp.B**
Consistency:	liquid	liquid
Colour:	transparent yellow	transparent yellow
Density:	1.1 kg/l	0.98 kg/l
Viscosity:	300 mPa·s (spindle 2 - 20 rpm)	25 mPa·s (spindle 1 - 50 rpm)

APPLICATION DATA	
Mixing ratio:	A: B = 4 : 1
Colour of the mix:	transparent yellow
Consistency of mix:	very fluid liquid
Density of the mix:	1.1 kg/l
Brookfield viscosity:	140 mPa·s (spindle 1 - 50 rpm)
Workability time (EN ISO 9514):	at +23°C 35 min at +30°C 15 min
Setting time:	at +23°C 7-8 h at +30°C 2-3 h
Application temperature:	from +10°C to +35°C
Complete hardening:	7 days

FINAL PERFORMANCE			
Performance characteristic	**Test method**	**Requirements according to EN 1504-5**	**Product performance**
Adhesion by tensile bond strength:	EN 12618-2	cohesive failure of the substrate	meets specifications
Adherence by slant shear strength:	EN 12618-3	monolithic failure	meets specifications
Volumetric shrinkage:	EN 12617-2	< 3%	2.1%

Glass transition temperature:	EN 12614	> +40°C	> +40°C	
Injectability in dry and wet sand column:	EN 1771	Injectability class: - 0.1-mm cracks: < 4 min - 0.2 and 0.3 mm cracks: < 8 min Splitting test: > 7 N/mm²	dry 1 min 30 s 11 N/mm²	wet 1 min 30 s 10 N/mm²
Durability (freeze/thaw and wet/dry cycles):	EN 12618-2	cohesive failure of the substrate	meets specifications	
Development of tensile strength:	EN 1543	tensile strength > 3 N/mm² at 72 h at minimum application temperature	at +10°C > 3 N/mm²	
Compressive strength:	ASTM D 695	–	70 N/mm²	

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application.
Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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