



# Epojet

## Superfluid epoxy resin for injection



### WHERE TO USE

- Monolithic repair of structures with cracks or fissures caused by heavy loads, accidental impacts and earthquakes.
- Bonding and reinforcement of structures by low pressure injection.

### Some application examples

- Structural repairs of beams, pillars and fissured floors by low pressure injection.
- Reinforcement of beams and floors by using injection and *béton plaqué*, the plated concrete technique, when the plates to be bonded are fitted with lateral flaps and it is therefore impossible to apply **Adesilex PG1** or **Adesilex PG2** directly.
- Restoring and waterproofing cracks in reservoirs, tanks and canals.
- Restoring, by injection, various elements of façades, cladding and architectural elements that are loose.
- Protective injections of post-compression cable ducts.
- Structural consolidation and restoration of civil and industrial road constructions which show signs of cracking.
- Sealing of fissures in cementitious screeds.
- Consolidation and restoration, by injection,

of concrete structures damaged by earthquakes, settlement or impact.

### TECHNICAL CHARACTERISTICS

**Epojet** is a two-component solvent-free epoxy adhesive. The pre-measured portions (component A = resin and component B = hardener) must be mixed together before being used.

Once mixed, **Epojet** becomes a liquid with low viscosity very suitable for injection.

**Epojet** polymerizes without shrinkage and once hardened is waterproof.

**Epojet** has very good insulating properties and high mechanical strength; furthermore it adheres perfectly to concrete and steel.

**Epojet** meets the requirements defined by 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 the minimum requirements claimed by EN 1504-5 (*“Concrete injection”*)

### RECOMMENDATIONS

- Do not use **Epojet** at temperatures below +5°C.
- Do not apply **Epojet** to wet surfaces.
- Do not apply **Epojet** on dusty, friable or weak substrates.
- Do not use **Epojet** for sealing expansion joints.

# Epojet



Mixing Epojet



Fixing injection tubes with Adesilex PG1



Injecting Epojet to a fissured pillar

## APPLICATION PROCEDURE

### Preparing the substrate

Before injecting **Epojet**, the concrete substrate must be perfectly sound and clean. Remove all crumbly and loose parts, dust, cement laitance and paint by sanding or brushing. Concrete soaked with oil or grease must be completely demolished.

### Placing the steel reinforcement and injection

Remove all traces of rust or grease by sandblasting down to bright metal (SA 2<sup>1/2</sup>) or, if necessary, with emery paper and degrease with solvents.

Once these preparatory procedures have been completed, fix the steel plates to the concrete with expanding bolts and then seal the injectors with **Adesilex PG1** or **Adesilex PG2**.

### Sealing cracks by injection

Make a series of holes of 8-9 mm in diameter along the sides of the cracks and orient the injectors to intercept the cracks.

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**.

If the holes cannot be formed because of lack of space, fix flat head injection tubes directly onto the concrete with expanding bolts or seal with **Adesilex PG1** or **Adesilex PG2**.

Wait until **Adesilex PG1** or **Adesilex PG2** hardens (at least 12 hours) and inject compressed air to clean out the whole injection system.

### Preparing the product

First the two parts of **Epojet** must be mixed together. Pour Part B into Part A and manually mix with a trowel (for small amounts), or with a low speed heavy duty drill (for large quantities) avoiding the formation of air bubbles and until the mix is perfectly homogeneous. Do not use partial quantities of the parts to avoid measuring errors that could lead to the incomplete hardening of **Epojet**. If the packs need to be used partially, use an electronic precision scale.

### Applying the product

Begin immediately from the lowest tube and start injecting **Epojet** until the resin overflows out of the next tube. Close the tube used for injection and inject **Epojet** in the next one positioned just above until the fissure is completely sealed.

Horizontal fissures can be sealed simply by pouring **Epojet** directly into the crack.

**Epojet** must be used within 40 minutes from its preparation and at +23°C.

Avoid using **Epojet** when the outdoor temperature and that of the substrate is less than +5°C.

## Cleaning

Tools used for preparing and injecting **Epojet** must be cleaned immediately after use and before it hardens with solvents (ethyl alcohol, toluolo, etc.).

## CONSUMPTION

– Sealing fissures:  
1.1 kg/dm<sup>3</sup> of cavity to be filled.

– Bonding concrete to steel:  
1.1 kg/m<sup>2</sup> per mm of thickness.

## PACKAGING

4 kg kits  
(component A : 3.2 kg - component B : 0.8 kg);  
2.5 kg kits  
(component A : 2 kg - component B : 0.5 kg).

## STORAGE

24 months if stored in its original packaging. Keep the product stored in an area with a temperature not below +5°C.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

**Epojet** component A is irritant when in direct contact with the eyes and skin. Component B contains a strongly caustic and harmful substance. After continual and prolonged contact, sensitisation could occur. Avoid all contact with skin and eyes. It is recommended to use protective gloves and goggles during the preparation and the application of the product.

When the product is being applied in closed or poorly ventilated areas, provide sufficient forced ventilation. In case of contact with the skin, wash with plenty of water and soap and if any sensitisation occurs consult a doctor. In case of contact with the eyes wash with running water and consult a doctor. Use in ventilated environments. **Epojet** is dangerous to aquatic organisms. Avoid release to the environment.

FOR PROFESSIONAL USE.

## WARNING

*While the indications and guidelines contained in this data sheet correspond to the company's knowledge and wide experience, they must be considered, under all circumstances, merely as an indication and subject to confirmation only after long-term, practical applications. Therefore, anybody who undertakes to use this product, must ensure beforehand that it is suitable for the intended application and, in all cases, the user is to be held responsible for any consequences deriving from its use.*

Please refer to the current version of the **Technical Data Sheet**, available from our web site [www.mapei.com](http://www.mapei.com)

**All relevant references for the product are available upon request and from [www.mapei.com](http://www.mapei.com)**

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

	Component A	Component B
<b>Consistency:</b>	liquid	liquid
<b>Colour:</b>	transparent yellow	transparent yellow
<b>Density (kg/l):</b>	1.15	1.12
<b>Brookfield viscosity (mPa·s):</b>	500 (rotor 2 - 20 revs)	320 (rotor 2 - 20 revs)
<b>Storage:</b>	24 months in its original, sealed packaging at a temperature of between +5°C and +30°C	
<b>Hazard classification according to EC 1999/45:</b>	irritant, hazardous for the environment Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packaging and Safety Data Sheet	corrosive
<b>Customs class:</b>	3907 30 00	

### APPLICATION DATA OF PRODUCT (at +23°C - 50% R.H.)

<b>Mixing ratio:</b>	component A : component B = 4 : 1
<b>Consistency of mix:</b>	fluid liquid
<b>Colour of mix:</b>	transparent yellow
<b>Density of mix (kg/l):</b>	1,14
<b>Brookfield viscosity (mPa·s):</b>	380 (rotor 2 - 5 revs)
<b>Open time (EN ISO 9514):</b> - at 23°C: - at 30°C:	40 minutes 20 minutes
<b>Setting time:</b> - at 23°C: - at 30°C:	5 hours 3 hours
<b>Application temperature range:</b>	from 5°C to 30°C
<b>Complete hardening time:</b>	7 days

### FINAL PERFORMANCE

Performance characteristic	Test method	Requirements according to EN 1504-4	Prestazione prodotto	
<b>Bond due to tensile strength:</b>	EN 12618-2	cohesive failure of substrate	meets specifications	
<b>Bond due to inclined shear strength:</b>	EN 12618-3	monolithic failure	meets specifications	
<b>Volumetric shrinkage (%):</b>	EN 12617-2	< 3	1.9	
<b>Glass transition temperature:</b>	EN 12614	≥ +40°C	> +40°C	
<b>Injection into a column of dry sand and into a column of damp sand:</b>	EN 1771	injection class: - cracks width 0.1 mm: < 4 min - cracks from 0.2 to 0.3 mm: < 8 min	dry 4 min and 41 sec	damp 4 min and 50 sec
		indirect tension: > 7 N/mm <sup>2</sup>	14 N/mm <sup>2</sup>	11 N/mm <sup>2</sup>
<b>Durability (freeze/thaw cycles and wet/dry cycles):</b>	EN 12618-2	cohesive failure of substrate	meets specifications	
<b>Development of tensile strength at 5°C (N/mm<sup>2</sup>):</b>	EN 1543	tensile strength > 3 N/mm <sup>2</sup> after 72 hours at service temperature	> 4.9	
<b>Tensile strength (N/mm<sup>2</sup>):</b>	EN ISO 527	-	44	
<b>Tensile modulus of elasticity (N/mm<sup>2</sup>):</b>	EN ISO 527	-	3.400	
<b>Deformation at failure (%):</b>	EN ISO 527	-	1,0	
<b>Compressive strength (N/mm<sup>2</sup>):</b>	ASTM D 695	-	100	



Repairing beam with injection of Epojet



Restoring horizontal structure by injection with Epojet

# Epojet

