

# ADESILEX PG2 SP

Two-component thixotropic epoxy adhesive for structural bonding

## WHERE TO USE

Structural preparation, bonding and reinforcement of concrete elements, natural stone, mortar and brick.

### Some application examples

- Structural reinforcement of beams and pillars by bonding steel (beton plaqué method) or composite material (e.g. Carboplate) plates to concrete.
- Non-flexible structural bonding of precast concrete elements.
- Sealing injectors and surface damage before injection of **Epojet LV** by low-pressure pump.
- Sealing large cracks and repairing joint corners in industrial floorings subject to traffic.
- Bonding fibre-reinforced cement slabs and pipes.
- Waterproofing large size joints by bonding PVC strips (e.g. **Mapeband TPE**) to concrete.

## TECHNICAL CHARACTERISTICS

**Adesilex PG2 SP** is a two-component product based on epoxy resins, selected fine-grain aggregates and special additives according to a formula developed in the MAPEI research laboratories.

After mixing **Adesilex PG2 SP** (Part A) with its hardener (Part B), a thixotropic, easy to apply even on vertical structures in thicknesses up to 1 cm in a single layer, is obtained.

Once prepared, **Adesilex PG2 SP** hardens by chemical reticulation alone in approx. 5 hours without shrinkage. It becomes a compound with exceptional bonding and mechanical strength. **Adesilex PG2 SP** is especially suitable for applications in temperatures between +10°C and +40°C.

## RECOMMENDATIONS

- Do not use **Adesilex PG2 SP** for sealing flexible joints or joints subject to movement.
- Do not use **Adesilex PG2 SP** for shrinkage joints between fresh and old concrete (use **Eporip**).
- Do not use **Adesilex PG2 SP** on wet surfaces.
- Do not use **Adesilex PG2 SP** on dirty or crumbling surfaces.
- Do not use **Adesilex PG2 SP** for bonding and grouting anti-acid ceramic tiles (use **Kerapoxy**).

## APPLICATION PROCEDURE

### Preparing the substrate

To ensure good adhesion of **Adesilex PG2 SP**, special care must be taken for the preparation of surfaces to be bonded. The concrete, natural stone or brick substrate must be clean, sound and dry. Sand-blasting is ideal to remove all loose and crumbling parts, efflorescence, cement laitance and traces of form-release oils. Then

remove all dust with compressed air. All traces of rust, paint and oil must be removed from metal surfaces, preferably by means of sand-blasting (SA 2 1/2) down to bright metal. With regards to freshly placed concrete, it is necessary that the concrete cures for at least 28 days before applying **Adesilex PG2 SP**. This is to avoid tensions induced by hygrometric shrinkage of the concrete concentrated in the interface of the bonding. The application temperature of **Adesilex PG2 SP** must not be below +10°C.

### Preparing the mix

The two parts of **Adesilex PG2 SP** must be mixed together. Pour Part B (white) into Part A (grey) and mix at a slow speed with a drill fixed with an agitator until a uniform paste is obtained (a uniform grey). The product is already pre-dosed. To avoid incomplete hardening of **Adesilex PG2 SP**, do not use partial quantities. When partial quantities are necessary, use a precision electronic scale. The mixing ratio is: – 3 parts by weight of Part A; – 1 part by weight of Part B.

### Applying the mix

**Adesilex PG2 SP** can be applied on concrete, stone, brick or metal with a flat trowel or float. To obtain good bonding, it is recommended to spread the adhesive on both surfaces that need bonding and let the product penetrate well, especially on irregular surfaces. After applying the adhesive, unite the two pieces that need bonding and keep firm until the adhesive has completely hardened. The sufficient thickness to obtain an excellent bonding strength is approximately 1-2 mm. Because of the excellent thixotropic property, **Adesilex PG2 SP** can be also applied vertically or on ceilings without slipping. The environmental temperature has an effect on the hardening time of the two products. At +23°C **Adesilex PG2 SP** remains workable for 60 minutes. After this time, the product begin the hardening process. **Adesilex PG2 SP** must be applied within the useful pot life time. It is therefore useful to plan the work within the time limit mentioned above.

### Precautions to be taken before application

No particular precaution needs to be taken with temperatures between +10°C and +40°C. Do not expose the product to sun light and carry out bonding during the cooler hours of the day in order to prevent the rapid hardening of the product which would make application difficult.

## TECHNICAL DATA (typical values)

### PRODUCT IDENTIFICATION

	Part A	Part B
Consistency:	thick paste	thick paste
Colour:	grey	white
Mass density (g/cm <sup>3</sup> ):	1.6	1.8
Brookfield Viscosity (mPa·s):	1 000 000 (F shaft - rev. 5)	300 000 (D shaft - rev. 2.5)
Storage:	24 months in original sealed packaging at temperatures between +10°C and +40°C	

### APPLICATION DATA

Mix ratio:	Part A : Part B = 3 : 1
Consistency of mix:	thixotropic paste
Colour of mix:	grey
Mass density of mix (kg/m <sup>3</sup> ):	1600
Brookfield Viscosity (mPa·s):	800 000 (F shaft - rev. 5)

Workability	
- at +10°C:	150'
- at +23°C:	60'
- at +30°C:	35'
Setting Time:	
- at +10°C:	14-16 h
- at +23°C:	4-5 h
- at +30°C:	2.5-3 h
Application temperature range:	from +10°C to +40°C
Final hardening:	7 days

## FINAL PERFORMANCE

Bonding strength concrete-steel:	>3.5 MPa (breaking of concrete)
Bonding strength concrete-Carboplate:	>3.5 MPa (breaking of concrete)
Tensile strength (ASTM D 638):	30 MPa
Elongation due to pulling stress (ASTM D 638) (%):	1
Compressive strength (ASTM D 695):	80 MPa
Flexural strength (ISO 178):	40 MPa
Modulus of elasticity under compression (ASTM D 695):	8,000 MPa
Modulus of elasticity in flexural (ISO 178):	4,000 MPa
Shear strength (FIP 9/2):	>25 MPa
Static E-modulus (FIP 9/2):	9,412 MPa
Glass transition temperature:	78°C
Coefficient of linear thermal expansion (ASTM D831-19)	<80x10 <sup>-6</sup>

## CLEANING

Due to the high bonding strength of **Adesilex PG2 SP** even to metal, it is recommended to clean working tools with solvents (ethyl alcohol, toluol, etc.) before the product hardens.

## CONSUMPTION

1.50-1.60 kg/m<sup>2</sup> per mm of thickness.

## PACKAGING

5 kg units (Part A = 3.75 kg Part B = 1.25 kg).

## STORAGE

Store the product in original packaging in an environment at temperatures not below +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.

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website, [www.mapei.com.au](http://www.mapei.com.au)

PRODUCT FOR PROFESSIONAL USE.

## 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. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.*

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

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