MAPEI

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

Adesilex PG2 SP

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.

SAFETY INSTRUCTIONS FOR THE PREPARATION AND INSTALLATION
Adesilex PG2 SP part A is irritant in direct contact with eyes and skin.
Parts B contains corrosive harmful substances and is harmful by inhalation and if swallowed.
After repeated or prolonged contact, sensitisation phenomena could be caused.
Avoid any type of contact with the skin and eyes by always wearing protective gloves and goggles especially when mixing the two parts and when using the product.
In case of contact with the skins immediately wash with plenty of running water and soap.
If any sensitisation occur consult a doctor.
In case of contact with the eyes, wash with plenty of running water and consult a doctor.
If using in a closed environment, provide good ventilation.
Adesilex PG2 SP is dangerous for the aquatic organisms: do not release to the environment.

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.

COMSUMPTION
1.50-1.60 kg/m2 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.

FOR PROFESSIONALS.

WARNING
Although the technical details and recommendations contained in this product report 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 applications: 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.

All relevant references of the product are available upon request

TECHNICAL DATA (typical values)

PRODUCT IDENTIFICATION		
Customs class:	3907 30 00	
	Part A	**Part B**
Consistency:	thick paste	thick paste
Colour:	grey	white
Mass density (g/cm³)	1.6	1.8
Brookfield Viscosity (mPa•s):	1000 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	
Hazard classification according to EC1999/45:	irritant, dangerous for the environment	corrosive, dangerous for the environment
	Before using, refer to the "Safety Instruction for the preparation and application" paragraph and the information on the packaging and safety data sheet.	
APPLICATION DATA		
Mix ratio:	Part A : Part B = 3 : 1	
Consistency of mix:	thixotropic paste	
Color of mix:	grey	
Mass density of mix (kg/m³)	1600	
Brookfield Viscosity (mPa•s):	800 000 (F shaft - rev. 5)	
Workability **- at +10°C:** **- at +23°C:** **- at +30°C**	 150' 60' 35'	
Setting time **- at +10°C:** **- at +23°C:** **- at +30°C**	 14-16 h 4-5 h 2 h 30'-3 h	
Application temperature range:	from +10°C to +40°C	
Final hardening:	7 days	
Bonding strength concrete-steel (N/mm²):	> 3 (breaking of concrete)	
Bonding strength concrete-Carboplate (N/mm²):	> 3 (breaking of concrete)	
Tensile strength (ASTM D 638) (N/mm²):	30	
Elongation due to pulling stress (ASTM D 638) (%):	1	
Compressive strength (ASTM D 695) (N/mm²):	80	
Flexural strength (ISO 178) (N/mm²):	40	
Modulus of elasticity under compression (ASTM D 695) (N/mm²):	8000	
Modulus of elasticity in flexion (ISO 178) (N/mm²):	4000	

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