ADESILEX PG2 TG

Two-component thixotropic epoxy adhesive for bonding Mapeband, Mapeband TPE, hypalon and structural bonding

WHERE TO USE

Structural repair, 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 the low-pressure pump.
- Sealing large cracks and repairing joint corners in industrial flooring subject to traffic.
- Bonding fibre-reinforced cement slabs and pipes.
- Waterproofing large-size joints by bonding TPE strips (e.g. **Mapeband TPE**) to concrete.
- General reprofiling over large areas up to 3mm.
- Filling pinholes prior to overcoating with epoxy and polyurethane flooring system.

TECHNICAL CHARACTERISTICS

Adesilex PG2 TG 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 TG** (part A) with its hardener (part B), a thixotropic mix, easy to apply even on vertical structures in thicknesses up to 1 cm in a single layer, is obtained. Once prepared, **Adesilex PG2 TG** hardens by chemical reticulation alone without shrinkage. It becomes a compound with exceptional bonding and mechanical strength.

Adesilex PG2 TG is especially suitable for applications at temperatures between +25°C and +50°C.

RECOMMENDATIONS

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

APPLICATION PROCEDURE

Preparation of the substrate

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To ensure good adhesion of **Adesilex PG2 TG**, 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 2½) down to the bright metal.

With regards to freshly placed concrete, it is necessary that the concrete cures for at least 28 days before applying **Adesilex PG2 TG**. This is to avoid tensions induced by hygro-metric shrinkages of the concrete concentrated in the interface of the bonding. The application temperature of **Adesilex PG2 TG** must not be below +25°C.

Preparation of the mix

The two parts of **Adesilex PG2 TG** 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 TG** 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.

Application of the mix

Adesilex PG2 TG 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. Because of the excellent thixotropic property, **Adesilex PG2 TG** can be also applied vertically or on ceilings without slipping.
The environmental temperature has an effect on the hardening time of the product. At +50°C **Adesilex PG2 TG** remains workable for 20 minutes. After this time, the product begins the hardening process. **Adesilex PG2 TG** 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 precautions need to be taken with temperatures between +25°C and +50°C. Do not expose the product to sunlight and carry out bonding during the cooler hours of the day in order to prevent the rapid hardening of the product which would make the application difficult.

Cleaning

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

CONSUMPTION

1.71 kg/m² per mm of thickness.

PACKAGING

6 kg kit (part A: 4.5 kg; part B: 1.5 kg).

STORAGE

24 months in their original packaging. Store the product at temperatures not below +10°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.ae.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

	Component A	Component B
Consistency:	thick paste	thick paste
Colour:	grey	white
Density (kg/L):	1.70	1.80
Brookfield viscosity (mPa·s):	800000 (F shaft - rev. 5)	700000 (D shaft - rev. 2.5)

APPLICATION DATA

Mixing ratio:	component A : component B = 3 : 1
Consistency of mix:	thixotropic paste
Color of mix:	grey
Mass density of mix (kg/L):	1.71
Brookfield viscosity (mPa·s):	900000 (F shaft - rev. 5)
Application temperature range:	from +25°C to +50°C
Complete hardening time:	7 days
Pot life (preconditioning +50°C) (FIP Clause 5.1):	20 minutes
Open time (at +25°C for 24 hours and 100% R.H.) (FIP Clause 5.2):	> 60 minutes

FINAL PERFORMANCE

Performance characteristic	Test method	Requirement of FIP	Performance of product
Shrinkage (at +50°C for 7 days) (%):	FIP 5.7	≤ 0.4	0.2
Heat resistance:	FIP 5.10 (ASTM D 648 - Method B)	≥ 50°C	approx. 85°C
Compressive modulus of elasticity (7 days at +25°C and 50% R.H.) (MPa): **– instantaneous:** **– deferred (1 hour):**	FIP Clause 5.13	 8000 6000	 8500 7800
Shear modulus (at 25°C for 7 days) (MPa): **– instantaneous:** **– deferred (1 hour):**	FIP Clause 5.16	 ≥ 1500 ≥ 1200	 2900 2600
Thixotrophy test at 10 minutes: **– flow (mm)**	FIP Clause 5.3	≤ 30	0
Creep in pure compression with maximum load 16 kN (at +40°C for 7 days) (MPa): **– instantaneous:** **– deferred (1 hour):**	FIP 5.8 & 5.13	 ≥ 8000 ≥ 6000	 10560 10140
Creep in pure shear (at +50°C for 7 days) (MPa): **– instantaneous:** **– deferred (28 days):**	FIP Clause 5.8 & 5.16	 ≥ 1500 ≥ 1000	 3590 2095

Water absorption and solvability of segmental bonding (at +50°C for 7 days) (%): **– water absorption:** **– solvability:**	FIP Clause 5.9	≤ 0.5 ≤ 0.1	0.03 0.09
Angle of internal friction (mm^2): **– load 15 kg and average diameter 75 mm:** **– load 200 kg and average diameter 123 mm:** **– load 400 kg and average diameter 130 mm:**	FIP Clause 5.4	≥ 3000 ≥ 7500 ≥ 10000	4350 11830 13220
Tensile bending strength and bonding strength to concrete surfaces (20/40 concrete with brush hammered boarding faces) (+25°C and 100% R.H.):	FIP 5.5 & 5.14	100% concrete failure	100% concrete failure
Compressive strength at +25°C (MPa): **– 12 hours:** **– 24 hours:** **– 7 days:**	FIP Clause 5.6 & 5.12	≥ 20 (FIP 5.6) ≥ 40/60 (FIP 5.6/5.12) ≥ 75 (FIP 5.6 & 5.12)	35 82 89
Shear strength (at +25°C for 7 days) (MPa):	FIP Clause 5.15	≥ 12	27

IMPORTANT NOTES

Whilst we try to ensure that any advice, recommendations, or information given in our literature is accurate and correct, we have no control over the circumstances in which our product is used. It is therefore important that installers satisfy themselves that the product and conditions are suitable for the envisaged application. No warranty can be given or responsibility accepted other than, that the product supplied by us will meet our written specifications. The installer should ensure that our latest product data and safety information sheets have been consulted prior to use.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.ae.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into other project-related documents, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation. The most up-to-date TDS can be downloaded from our website www.mapei.ae.

ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

All relevant references for the product are available upon request and from www.mapei.com.

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