

EPOMAX-PL

Two-component, epoxy adhesive paste for composite plates

Description

EPOMAX-PL is a two-component epoxy system in pasty form. After hardening, it provides strong adhesion to the substrate, high hardness and increased compressive and flexural strength.

Certified according to EN 1504-4 and classified as a structural bonding agent for external reinforcement of concrete. CE marked. Certificate No. 2032-CPR-10.11.

Fields of application

EPOMAX-PL is used for bonding carbon plates while structurally strengthening construction elements with fiber-reinforced polymer systems (F.R.P.).

Technical data

Basis:	two-component epoxy resin
A-component color:	white
B-component color:	black
A+B color:	light grey
Form:	paste
A-component density:	1.64 ± 0.02 kg/l
B-component density:	1.72 ± 0.10 kg/l
A+B density:	1.66 ± 0.04 kg/l
Viscosity:	300.000±100.000 mPa·s at +23°C
Mixing ratio (A+B):	100:20 by weight
Pot life:	approx. 45 min at +20°C
Minimum hardening temperature:	+8°C
Final strength:	after 7 days at +20°C
Tensile adhesion strength between steel plates:	17.7 N/mm ² (EN 12188)

Shear adhesion strength between steel prisms:	14.4 N/mm ² (EN 12188)
Shrinkage:	0.05% (EN 12671-1)
Workability:	40 minutes at +20°C (EN ISO 9514)
Modulus of elasticity in compression:	6.200 N/mm ² (EN 13412)
Coefficient of thermal expansion:	37 X 10 ⁻⁶ (EN 1770)
Glass transition temperature:	≥ 70 °C (EN 12614)
Reaction to fire:	Euroclass E (EN 13501-1)
Durability:	Pass (EN 13733)
Tensile strength:	20.6 MPa (ASTM D 638)
Compressive strength:	≥ 70.0 MPa (ASTM D 695)
Flexural strength:	≥ 35.0 MPa (ASTM D 790)
Modulus of elasticity (flexural):	6.400 MPa (ASTM D 790)
Adhesion:	> 4 N/mm ² (breaking point of concrete)
Cleaning of tools:	Tools should be cleaned with SM-25 solvent or water, immediately after use.

Directions for use

1. Substrate preparation

The substrate must be:

- Dry and sufficiently strong and stable.

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- Free of materials that might impair bonding, e.g. dust, loose particles, grease or oil, etc.

It is recommended that the substrate be mechanically treated by sandblasting or milling and cleaned with a high-suction vacuum cleaner, before application.

If there are cracks in the concrete, they have to be repaired by a resin injection process using materials like EPOMAX-L10, EPOMAX-L20 or DUREBOND.

The substrate should be as flat as possible. Surface imperfections are repaired using MEGACRET-40 fiber-reinforced cement-mortar or EPOMAX-EK epoxy paste.

2. Mixing of the components

Components A (resin) and B (hardener) are packaged in two separate containers, having the correct predetermined mixing ratio by weight. Mix thoroughly the entire contents of comp. A with that of comp. B. The components should be mixed for about 5 minutes with an appropriate tool (e.g. small trowel), until a uniform light grey color is obtained.

It is important to stir the mixture thoroughly near the sides and bottom of the container, to achieve uniform dispersion of the hardener.

3. Application - Consumption

After removing the plate sticker, EPOMAX-PL is applied on the plate surface with a trowel. Then, the carbon plates are placed and pressed with a plastic roller on the dry and clean surface, so that the paste starts overflowing from the edges and there is no air entrapped between the paste and the concrete surface. The total thickness of EPOMAX-PL, after being pressed with the trowel, should be between 0.5-2.0 mm.

Consumption: 1.6-1.7 kg/m²/mm of layer thickness.

Packaging

EPOMAX-PL is supplied in containers (A+B) of 5 kg, with components A and B having a fixed ratio by weight.

Shelf life – Storage

12 months from production date if stored in original sealed packaging, in areas protected from humidity and direct sunlight. Recommended storage temperature between +5°C and +35°C.

Remarks

- The workability of epoxy materials is affected by temperature. The ideal temperature of application is between +15°C and +25°C, for which the product obtains optimal workability and curing time. Room temperature below +15°C will expand the curing time, while temperatures above +30°C will reduce it. It is recommended to mildly preheat the product in the winter, and store the product in a cool room before application in the summer.
- After hardening, EPOMAX-PL is totally safe for health.
- Please consult the safety instructions written on the packaging before use.
- EPOMAX-PL is intended for professional use only.

Volatile Organic Compounds (VOCs)

According to Directive 2004/42/CE (Annex II, table A), the maximum allowed VOC content for the product subcategory g, type SB is 350 g/l (2010) for the ready-to-use product. The ready-to-use product EPOMAX-PL contains a maximum of 350 g/l VOC.

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2032

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2032-CPR-10.11

EN 1504-4

DoP No:EPOMAX-PL/1263-01

Structural bonding product for bonded plate
reinforcement for uses other than low
performance requirements

Adhesion: Pull off strength ≥ 14 N/mm²

Slant shear strength at:

50° ≥ 50 N/mm²

60° ≥ 60 N/mm²

70° ≥ 70 N/mm²

Shear Strength: ≥ 12 N/mm²

Shrinkage expansion: $\leq 0.1\%$

Workability: 40 minutes at +20 °C

Modulus of elasticity: $\geq 2,000$ N/mm²

Coefficient of thermal
expansion: $\leq 100 \times 10^{-6}$ per K

Glass transition temperature: ≥ 40 °C

Reaction to fire: Euroclass E

Durability: Pass

Dangerous substances: comply with 5.4

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