TRADECC

Products and techniques for construction and chemical industry

CE
EN 1504-4

TECHNICAL DATASHEET

PC® 5800/BL

Epoxy Glue

1. Description

PC® 5800/BL is a two-component solvent-free epoxy glue.

2. Applications

PC® 5800/BL is very well suited for gluing:

- PC® CarboComp carbon fibre laminates on concrete, wood and steel
- Steel plates to reinforce structures in concrete and metal
- Concrete elements

3. Properties

The **PC® 5800/BL** is an epoxy glue with a very good adhesion to concrete, steel, carbon fibre laminates, …

4. Technical data (typical values)

- A-component: black paste
- B-component: white paste
- Density of the cured material: 1,91 g/m²
- Evaluation of the reactivity at 20°C: time needed for a mixture of 1030 g PC® 5800/BL A and 470 g PC® 5800/BL B to rise in temperature from 20°C to 40°C: 66 minutes
- Mixing ratio: 5,15 kg A / 2,35 kg B
- Compression strength (EN 12190):
  - After 24 h at 20 °C: 56 N/mm²
  - After 7 days at 20 °C: 88 N/mm²
- Modulus of elasticity under compression (EN 13412): 7.5 GPa
- Flexural strength (EN 13892-2, after 7 d at 20 °C): 46 N/mm²
- Tensile strength (EN 527-2, after 7 d at 20 °C): 24.3 N/mm²
- Adhesion to concrete (EN 1542): > 2.5 N/mm² (rupture in concrete)
- Adhesion to metal (EN 1542): 23.83 N/mm²
- Shear strength at an orthogonal stress = 0 (EN 12188): 28 N/mm²
- Slant shear strength (EN 12188):
  - at θ = 50°: 63.7 N/mm²
  - at θ = 60°: 67.4 N/mm²
  - at θ = 70°: 92.5 N/mm²
- Shrinkage (EN 12617-1): 0.06 %
- Coefficient of thermal expansion (EN 1770): < 100 10^{-6}/K
- Glass transition temperature T_g (EN 12614): 78.36 °C
- Durability (thermal and moisture cycles according to EN 13733): pass according to the prescriptions of EN 1504-4.
- Pot life at 20 °C (EN ISO 9514): minimum 40 minutes
- Consumption: ± 2 kg/m² per mm layer thickness

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- Curing time: at 20 °C the support of the with **PC® 5800/BL** glued elements can be removed after 24 hours. The time indicated decreases at higher and increases at lower temperatures.
- Application temperature: minimum 10 °C, maximum 30 °C (both ambient as substrate temperature)
- Load bearing capacity: at 20 °C after 3 days completely load bearing / at 30 °C after 2 days / at 10 °C after 7 days.
- Shelf life: 24 months after production date in the original, unopened and undamaged packaging. **PC® 5800/BL** has to be stored in a dry place between +5°C and 30°C.

5. Processing

- Mix the A- and the B-component until a uniform grey mass is obtained.
- Apply this mixture on the plate which has to be glued by using a trowel, spatula or a gluing device.
- After positioning the plate on the structure which has to be reinforced, the plate is pushed onto the substrate until a minimum quantity of glue is forced out on both sides. Steel plates have to be jacked or bolted for at least 24 hours.

6. Packaging

- A-component: 5,15 kg
- B-component: 2,35 kg
- Weight of the mixture: 7,5 kg

7. Cleaning

Unreacted product can be removed with the cleaning agent PC® 5900.

8. Precautions and safety requirements:

- Avoid contact with the skin and the eyes.
- Wear protective gloves, clothes and glasses.
- Prevent all contact of **PC® 5800/BL** with water.
- For more information: see Material Safety Data Sheet (MSDS).

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EN 1504-4
Structural bonding for bonded plate reinforcement for uses other than low performance requirements (epoxy based)

Bond/adhesion	Pull off strength $\geq$ 14 N/mm² Slant shear strength at: 50° $\geq$ 50 N/mm² 60° $\geq$ 60 N/mm² 70° $\geq$ 70 N/mm²
Shear strength	$\geq$ 12 N/mm²
Shrinkage/expansion	$\leq$ 0,1%
Modulus of elasticity	$\geq$ 2000 N/mm²
Workability	40 minutes at 20 °C
Coefficient of thermal expansion	$\leq$ 100 x 10^{-6} per K
Glass transition temperature	$\geq$ 40°C
Reaction to fire	Euroclass F
Durability	Pass
Dangerous substances	comply with 5.4