Technical Data Sheet 150
Edition October 2017

PCI®
Für Bau-Profis

3K, epoxy performance grout

PCI Repaflow® EP plus

heavy duty, for dynamic loads

Fields of application

- For indoor and outdoor use.
- For floors.
- Grouting and bedding of machines, bridge bearings and pillars.
- Electrically isolated grouting of railway tracks.
- Precision grouting and bedding of crane rails and turbines.
- Grouting of guide rails and guardrail posts, pillars in hall and shelving construction.
- Grouting of voids and gaps.
- Force-transmitting bond of concrete with concrete and concrete with metal.
- Repair of heavy-duty floor surfaces.

Features and benefits

- Three components.
- Ready to use.
- Self levelling.
- Low shrinkage.
- High bond to concrete and steel.
- High tensile strength and compressive strength.
- High resistance to impact and vibrations.
- Chemical resistant.
- Electrical isolation.
- Water impermeable up to 1.5 bar from 10 mm layer thickness.
- For grouting heights from 10 to 100 mm.
- Consistency can be adjusted from flowable to non sag depending on the application.

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DE0079/02

PCI Repaflow EP plus (DE0079/02)
EN 1504-6:2006

Anchoring product
EN 1504-6 Principle 4.2

Reaction to fire	Class Efl
Pull- out strength	≤ 0,6 mm
Chloride ion content	≤ 0,05 %
Glass transition temperature	≥ 62 °C
Durability/ Creep under tensile load	≤ 0,6 mm
Dangerous substances	Comply with 5.3 (EN 1504-6)

Technical data

Material

Components	A (resin)	B (hardener)	C (sand)
Unit size	11.35 kg	3.55 kg	100 kg (4 x 25 kg)
Colour (grey when cured)	yellow	brown	grey
Consistency	fluid		powder
Storage / shelf life	original packaging, +5°C to +30°C: 18 months		
Packaging size	11.35 kg tin unit	3.55 kg tin unit	25 kg paper bag
Adjusting requested consistency			
improved flowability for lower temperatures or longer distances	11.35 kg	3.55 kg	75 kg (3 x 25 kg)
original mixture	11.35 kg	3.55 kg	100 kg (4 x 25 kg)
as repair screed	11.35 kg	3.55 kg	125 kg (5 x 25 kg)

Application

Consumption per m² and mm layer thickness	approx. 1.9 kg
Largest grain	max. 2 mm
Thickness per layer	10 - 100 mm
Substrate and processing temperature	+10°C to +30°C and min. 3°C above dew point
Maximum relative humidity	75%
Substrate moisture	max. 4% (CM meter)
Processing time at +20°C and 65% rel. humidity	approx. 90 - 120 minutes

		10°C	23°C	30°C
Compressive strength after	8 hours		40 N/mm²	60 N/mm²
	16 hours		70 N/mm²	80 N/mm²
	24 hours	30 N/mm²	80 N/mm²	83 N/mm²
	3 days	80 N/mm²	85 N/mm²	85 N/mm²
	7 days	90 N/mm²	95 N/mm²	87 N/mm²
Bending tensile strength after	7 days	30 N/mm²	30 N/mm²	28 N/mm²

Adhesive tensile strength on steel (SA3)	EN 12188	13 N/mm² after 1 day	
Shrinkage	EN 12617-4	0.2 mm/m after 28 days	
Reaction heat		20 (K)	
Mixing ratio of components		original mix A (11.35 kg) + B (3.55 kg) + C (100 kg)	alternative mix A (11.35 kg) + B (3.55 kg) + C (75 kg)
Adhesive tensile strength after*	7 days	4.5 N/mm²	4.5 N/mm²
Modulus of elasticity* to:	DIN EN 13412	19,900 N/mm²	16,000 N/mm²
Thermal expansion coefficient* to:	DIN EN 1770	3.7 x 10^{-5} 1/k	-
Creep under tensile load* to:	DIN EN 1504-6 50 kN, 3 months	≤ 0.6 mm	-
Pull-out resistance* to:	DIN EN 1504-6 75 kN	≤ 0.6 mm	-
Density*		2.0 g/cm³	1.7 g/cm³
Volume of a mix*		58 litres	52 litres
Water pressure impermeability for*	28 days	1.5 bar	1.5 bar

*Note: * at 23°C and 50% relative humidity*

Chemical resistance

	Concentration (weight %)	Resistance		Concentration (weight %)	Resistance
Inorganic acid			**Fuel**		
Phosphoric acid	85	+	Premium gasoline		±
Nitric acid	10	+*	Diesel oil		+
Hydrochloric acid	37 (concentrated)	±*	Fuel oil		+
Sulphuric acid	70	+*	Machine oil		+
Organic acid			**Test media acc. to DIBt guideline**		
Citric acid	10	+	DF1	petrol	+
			DF3	fuel oil & diesel	+
Lye			DF4	hydrocarbon	+
Ammonia	25	+*	DF5	alcohol	+
Caustic potash solution	50	+	DF7	ester & ketone	+
Caustic soda solution	50	+			
			Others		
			Seawater		+
			Saltwater	concentrated	+
			De-icing salt		+

+ = resistant after a test period of 500 hours at +23°C
(+) = short-term resistant
- = non-resistant
**= staining*

Application procedure

- **Substrate**
  The substrate must be rough, clean and able to bear weight. Remove oil, grease, loose particles and old coatings. It is not allowed to apply PCI Repaflow EP Plus to green concrete before 28 days at the earliest. The substrate may have a moisture content of max. 4% (CM meter) when pouring the grout. It is important that the filling hole is big enough and that the surface can be de-aerated on the opposite site. The hole for de-aeration must be higher than the filling hole. Steel and metal surfaces should be cleaned by sandblasting (SA 2.5) to obtain optimal adhesion. Steel and iron elements must be covered with PCI Repaflow EP Plus within 4 hours after being cleaned from rust.
- **Ambient conditions**
  The temperature of surface and environment must be at least +10°C; the ambient temperature must be at least 3°C above dew point. The relative humidity must not exceed 75%.
- **Mixing**
  Add component B to component A and mix with a slow-speed mixer for at least 3 minutes until a homogeneous and lump-free compound is produced. Add component C to the compound (A + B) while mixer is constantly running and mix for approx. 3 minutes until requested consistency is produced. Transfer compound to another bucket and remix briefly.
- **Processing time**
  Depending on temperature, layer thickness and filling height: approx. 140 / 100 / 50 minutes at +10°C / +20°C / +30°C. Thicker layers and lower filling accelerate the curing process, thinner layers increase the curing time.
- **Application**
  Pour mixed grout immediately onto the prepared substrate. We recommend to apply several layers for heights exceeding 100 mm.

Cleaning

Clean tools with PCI Univerdünner universal thinner immediately after use.

Please note

- A reaction resin screed for repair patches in floors can be produced either from a mix of 125 kg of sand (5 x 25 kg component C) and a 14.9 kg mix of binding agent (A + B), or alternatively with 100 to 125 kg of silica sand no. 2. Prime substrate with mixed binding agent (A + B) and apply the screed wet on wet.
- In case of very low ambient and surface temperatures, we recommend to pre-store PCI Repaflow EP Plus in a warm place to help improve flowability.
- PCI Repaflow EP Plus is an especially flowable product and therefore penetrates very well in absorbent surfaces such as wood. Use non-absorbent formwork only, e.g. polymer-modified wood formwork, steel formwork and plastic formwork, and apply an additional separating agent evenly and thinly (approx. 10 g/m²) just before the grouting process begins. Do not allow contact between separating agent and metal parts.
- It is not allowed to use styrofoam formwork (dissolving).
- Wear suitable gloves and eye/face protection during the application. Contact with unprotected skin may cause burns and sensitization. Approved gloves are e.g. Camatril 730/ nitrile glove 0.4 mm from Kächele-Cama Latex GmbH. The maximum time to wear these gloves for the application of epoxy resins is eight hours.

Declaration of Performance

The Declaration of Performance can be downloaded as pdf file under www.pci-augsburg.eu/dop.

Information on the safe use

For professional/industrial use only.

Component A

Contains: bisphenol-A-epichlorhydrine resins M <=700, bisphenol-F-epichlorhydrin resins, butanedioldiglycidyl ether.
Causes serious eye damage. Causes skin irritation. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.
Wear protective gloves and eye/face protection. Avoid breathing vapours. Avoid release to the environment. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
IF ON SKIN: Wash with plenty of soap and water. IF SKIN IRRITATION OR RASH OCCURS: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Dispose of contents/container to hazardous or special waste collection point.

Component B

Contains: 3,6,9-triazaundecamethylene-diamine, tall oil fatty acids, reaction product with tetraethylenepentamine, 3,6-diazaoctane-1,8-diamine: triethylenetetramine.
Causes severe skin burns and eye damage. May cause an allergic skin reaction. Very toxic to aquatic life with long lasting effects.
Do not breathe dust or mist. Wear protective gloves/clothing and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. IF ON SKIN (or hair): Take off contaminated clothing immediately. Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get prompt medical advice/attention. IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Collect spillage. Take off contaminated clothing and wash it before reuse. Store locked up. Dispose of contents/ container to hazardous or special waste collection point.

Component C

Fillers - no particular safety measures required.

Giscode RE 1

For further information: see PCI Material Safety Data Sheet.

Disposal of emptied PCI sales packaging

PCI participates in an area-wide waste disposal system for sales packaging completely emptied. DSD – Duales System Deutschland (Dual System Germany, contract number 1357509) is our partner for waste disposal. PCI sales packaging completely emptied can be disposed of via DSD in accordance with the symbol printed on the packaging.

Services for architects and designers

Consultations at the workplace, supplementary information, testing certificates and sample descriptions can be requested from professional advisors and at the company headquarters.

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zertifiziertes Qualitäts-
managementsystem

In view of widely varying site conditions and fields of application of our products this technical data sheet is meant to provide general application guidelines only. This information is based on our present knowledge and experience. The customer is not released from the obligation to conduct careful testing of suitability and possible application for the intended use. The customer is obliged to contact the technical help-line for fields of application not expressly stated in the technical data sheet under "Fields of Application". Use of the product beyond the fields of application as stated in the technical data sheet without previous consultation with PCI and possible resulting damages are in the sole responsibility of the customer. All descriptions, drawings, photographies, data, ratios, weights a.o. stated herein can be changed without advance notice and do not represent the condition of the product as stipulated by contract. It is the sole responsibility of the recipient of our products to observe possible proprietary rights as well as existing laws and provisions. The reference of trade names of other companies is no recommendation and does not exclude the use of products of similar type. Our information only describe the quality of our products and services and are no warranty.
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German edition July 2017; the latest edition is always available on the Internet under www.pci-augsburg.de