

Reaction resin binder

PCI Durapox[®] NT, NT plus

for laying and grouting of ceramic coverings
exposed to chemicals

PCI Durapox NT reaction resin binder
PCI Durapox NT plus reaction resin mortar

Fields of application

- For indoor and outdoor use.
- For walls and floors.
- For chemical-resistant and water-impermeable laying and grouting of wall and floor coverings made of ceramic tiles, flagstones, mosaic as well as clinker bricks on renders, cement screed and concrete.
- For ceramic coverings in breweries, dairies, soft drink industries, canteen kitchens, butcheries, slaughter houses, fat processing industries, battery rooms, galvanisation, dye works, bleaching works, tanneries, papermills, laboratories and hospitals.
- For laying and grouting of ceramic tiles in swimming pools, hot springs, baths in hospitals as well as for ceramic tiles in shower facilities or spa areas.
- For ceramic tiles in administration buildings, hotels, schools, toilets, sewage plants, sewers, cattle stables and for stairs exposed to de-icing salt.

Features and benefits

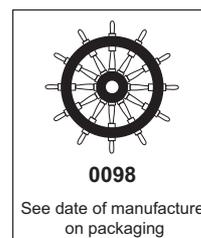
- Resistant to chemicals, many kinds of acid, lye, grease and oil.
- Water impermeable, water vapour barrier, protects moisture-sensitive substrates from water and moisture.
- Highly wear resistant to rolling and grinding loads, insensitive to cleaning by high pressure water jet.
- Crack-free curing and setting without shrinking, very good adhesion to joint sides.
- Resistant to frost and weathering, multi-purpose use indoors and out.
- High mechanical strength, good adhesion to joint sides, low modulus of elasticity, therefore superior to cement-based joint grouts.
- Good workability and easy to apply, for joint width from 2 - 20 mm.
- Produces smooth, low-porous and easy-to-clean joint surfaces.

PCI[®]

Für Bau-Profis



Chemical resistant and water impermeable grouting of mosaic coverings with PCI Durapox NT and PCI Durapox NT plus.



PCI Durapox NT

PCI Durapox NT plus

Features and benefits

- Almost odourless, no unpleasant odour during the application.
- PCI Durapox NT only contains fine fillers, can be applied by caulking gun, joint iron and wet grouting depending on the addition of quartzite aggregates.
- PCI Durapox NT plus contains binding resin with filling material and hardener, no need to add further aggregates.
- Tested in accordance with DIN EN 12 004: PCI Durapox NT and PCI Durapox NT plus meet the requirements of R2T.
- Resistant to thermal shock under short-term exposure to steam jet.

Technical data

Material

	PCI Durapox NT	PCI Durapox NT plus
Material base	epoxy resin system with fine fillers and pigments	epoxy resin system
Components	two components	two components
Packaging size	4 kg combined unit (incl. hardener)	4 kg combined unit (incl. hardener)
Mixing ratio	2.6 kg base component + 1.4 kg hardener component (≅ 100 : 54 parts by weight for partial quantities) third component: 6.5 kg silica sand BCS 412	2.9 kg base component + 1.1 kg hardener component (≅ 100 : 38 part by weight for partial quantities)
Colours	stock no.	stock no.
- 02 Bahama beige		3839/0
- 16 Silver grey	3867/3	3843/7
- 22 Sand grey	6273/9	6274/6
- 30 Aged white	3841/3	3842/0
- 31 Cement grey	3868/0	3844/4
- 47 Anthracite		3840/6
Shelf life	min. 15 months; store in a dry place, no permanent storage over +30°C	

Application

	PCI Durapox NT	PCI Durapox NT plus
Consumption (ready mixed material)	approx. 1600 g/m ² and mm layer thickness	
Tile laying		
notch size		
- 4 mm	approx. 1900 g/m ²	approx. 1900 g/m ²
- 6 mm	approx. 2300 g/m ²	approx. 2300 g/m ²
- 8 mm	approx. 3200 g/m ²	approx. 3200 g/m ²
- 10 mm	approx. 3800 g/m ²	approx. 3800 g/m ²
Grouting		
- tiles 15 × 15 cm (5 mm joint width, 10 mm joint depth)	approx. 1100 g/m ²	approx. 1100 g/m ²
- medium mosaic 5 × 5 cm (3 mm joint width, 5 mm joint depth)	approx. 1000 g/m ²	approx. 1000 g/m ²
- split tiles (8 mm joint width, 10 mm joint depth)	approx. 1600 g/m ²	approx. 1600 g/m ²

Technical data

Coverage	4 kg PCI Durapox NT, mixed with 6.5 kg silica sand, cover approx.	4 kg PCI Durapox NT plus cover approx.
Tile laying		
notch size		
- 4 mm	5.5 m ²	2.1 m ²
- 6 mm	4.6 m ²	1.7 m ²
- 8 mm	3.3 m ²	1.3 m ²
- 10 mm	2.8 m ²	1.1 m ²
Grouting		
- tiles 15 x 15 cm (5 mm joint width, 10 mm joint depth)	9.5 m ²	3.6 m ²
- medium mosaic 5 x 5 cm (3 mm joint width, 5 mm joint depth)	10.5 m ²	4.0 m ²
- split tiles (8 mm joint width, 10 mm joint depth)	6.6 m ²	2.5 m ²
Working temperature	min. +10°C to +25°C (substrate temperature)	
Working time*	approx. 45 minutes	approx. 45 minutes
Open time*	approx. 60 minutes	approx. 60 minutes
Emulsifiable/rewashable*	approx. 60 minutes	approx. 60 minutes
Curing times*		
- laid flagstones		
- groutable on walls after	approx. 4 hours	approx. 4 hours
- walkable/groutable on floors after	approx. 16 hours	approx. 16 hours
- grouted floor coverings		
- walkable after	approx. 16 hours	approx. 16 hours
- can be exposed to water and chemicals after	approx. 7 days	approx. 7 days
Temperature resistance	-20°C to +80°C	-20°C to +80°C
Adhesive bed thickness	from 2 mm	from 2 mm
Joint width	2 to 20 mm	2 to 20 mm

* At +23°C and 50% relative humidity. Higher temperatures reduce, lower temperatures increase the times given.

Preparation of substrate

■ Tile laying

The substrate must be clean, dry, even and able to take loads. Remove residues of forming oil and wax, chemicals and any other residues which could impair evaporation.

The residual moisture content of cement screeds must not exceed 4%. Do not use if the substrate has rising damp.

■ Grouting

The joints must be clean, dry, free from grease and dust. Rake joints clean when the tiles are laid. The bedding mortar and/or tile adhesive must have cured.

Application procedure of PCI Durapox NT, NT plus

Wear protective gloves and safety goggles!

■ Mixing

PCI Durapox NT

Fill both components - in the appropriate mixing ratio (for partial quantities see chart Technical Data/Material) - in an appropriate bucket and mix for at least 3 minutes until the mix has a uniform colour using a suitable paddle (e.g. type WK 70 or WK 90 from Collomix) attached to a slow-speed, infinitely adjustable electric drill (up to approx. 300 rpm). Transfer the mixed binding agent to another appropriate bucket,

add silica sand (see mixing ratio) and mix until a homogeneous compound is obtained.

PCI Durapox NT plus

Add hardener component to the base component and mix for at least 3 minutes until the mix has a uniform colour using a suitable paddle (e.g. type WK 70 or WK 90 from Collomix) attached to a slow-speed, infinitely adjustable electric drill (up to approx. 300 rpm). Transfer mixed material to a clean bucket and remix thoroughly.

■ Tile laying

1 Apply a thin scratch coat to the substrate using a trowel held at a steep

angle; the scratch coat makes further application easier.

2 Comb as much PCI Durapox NT and/or PCI Durapox NT plus onto the scratch coat as can be covered with ceramic tiles within the open time.

3 Place tiles and adjust to correct position. Heavy vitrified flagstones can be pegged underneath to support their weight until the adhesive is set.

■ Tile grouting

1 Wet grouting

Apply mixed reaction resin grout to the covering using a rubber grouting float and scrape off diagonally.



PCI Durapox NT and PCI Durapox NT plus are suitable for the application in swimming pools.



Washing the grouted coverings with the soft PCI epoxy sponge.

Application procedure

2 Grouting by caulking gun

2.1 Transfer mixed reaction resin grout into an empty PCI epoxy standard unit. Place the filled cartridge into a hand-operated or air-operated caulking gun.

2.2 Fit the plastic nozzle (e.g. PCI D 16) in place, cut off the tip at an angle to a diameter corresponding to the joint width and gun the mixed PCI Durapox NT and/or PCI Durapox NT plus into the joints.

2.3 Scrape off excessive grout with a rubber grouting float or plastic smoother.

3 Grouting by joint iron

3.1 Apply PCI Durapox NT grout mixed with the appropriate amount of silica sand into the joints by means of a joint iron and compact by going over the surface in an ironing motion to obtain a smooth surface.

4 Washing grouted coverings

4.1 After approx. 10 - 45 minutes, give first wash with little amount of lukewarm water (**no hot water!**) and PCI epoxy sponge hard or 3M pad white rubbing in circular motion.

4.2 Wash with a soft viscous sponge (e.g. PCI epoxy sponge soft), rinse sponge frequently.

4.3 The final moment to wash the surface depends on the ambient temperature. In case of normal room temperature (approx. 20°C), the covering can be washed up to 90 minutes after mixing by means of a soft viscous sponge (e.g. PCI epoxy sponge soft). Rinse sponge frequently. The time to wash the covering is longer at low temperatures. Customary citric acid (mixing ratio: 50 g citric acid for approx. 6 litres of water) should be added to the fresh, cold, clear washwater for easier cleaning of the

remaining resin film on the tiles. The washwater should be regularly changed, approx. every 5 - 10 m².

We recommend to check if the surfaces are clean (the same day as soon as dry) and clean again if necessary.

4.4 When the joint grout has cured the remaining film can also be removed with this washwater; heavy contamination can be cleaned with the special epoxy cleaner from PCI (PCI Spezial-Reiniger Epoxi).

■ Mixing ratio of PCI Durapox NT

■ Tiling and grouting: 4 kg of PCI Durapox NT + approx. 6.5 kg of silica sand BCS 412 (0.05 to 0.2 mm). The amount of sand can be reduced for the grouting of floors if necessary.

■ Tile grouting by joint iron: 4 kg of PCI Durapox NT + approx. 15 kg of silica sand F 32 (0.1 - 0.4 mm) (exact quantity to be added depends on the required consistency).

Colours

Slight variations in colour may be possible due to print.



02 Bahamabeige



16 Silver grey



22 Sand grey



30 Aged white



31 Cement grey



47 Anthracite, only for PCI Durapox NT plus

Accessories

Silica sand BCS 412, 25 kg bag,
stock no. 41141/4

Silica sand F 32, 25 kg bag,
stock no. 40277/1

PCI empty cartridge K 02 plastic,
530 ml, stock no. 1747/0

PCI plastic nozzle D 16,
stock no. 1675/6

PCI Gummifugscheibe (rubber
grouting float), stock no. 3398/2

PCI epoxy sponge soft,
stock no. 1991/7

PCI epoxy sponge hard,
stock no. 1985/6

PCI epoxy standard unit,
stock no. 56077

PCI Spezial-Reiniger Epoxi (special
epoxy cleaner), 5 kg pail,
stock no. 1628/2



Highly wear resistant and chemical resistant laying and grouting of ceramic coverings, e.g. in dairies.

Chemical resistance (tested for 500 hours at +20°C)

	Concentration (weight %)			Concentration (weight %)	
Inorganic acid			Fuel, oil		
Phosphoric acid	up to 50%	+	Petrol lead-free		+
Nitric acid	up to 20%	+ (staining)	Petrol leaded		+
Hydrochloric acid	up to 37%	+	Premium grade fuel		+
Sulphuric acid	up to 70%	+ (staining)	Diesel fuel		+
			Bio diesel fuel		+
Organic acid (staining)			Jet fuel		+
Formic acid	up to 5%	(+)	Motor oil		+
Boric acid	up to 10%	+	Fuel oil light (EL)		+
Acetic acid	up to 10%	(+)	Fuel oil heavy		+
Lactic acid	up to 10%	(+)	Paraffin oil		+
Oxalic acid	up to 10%	+	Hydraulic oil		+
Tartaric acid	up to 25%	+	Silicone oil		+
Citric acid	up to 10%	+	Edible oil		+
			Turpentine oil		+
Lye			Solvent		
Ammonia solution	until concentrated	+	Acetone		(+)
Calcium hydroxide solution	up to 20%	+	Butanol		(+)
Chlorine bleaching	until concentrated	+	Ethyl alcohol		(+)
Caustic potash solution	up to 50%	+	Isopropyl alcohol		(+)
Caustic soda solution	up to 50%	+	Petrol ether		(+)
			Formaldehyde		+
Salt			Xylene		(+)
Aluminium chloride solution	up to 30%	+	Ethyl acetate	up to 20%	(+)
Aluminium sulphate solution	up to 40%	+	Petroleum ether		(+)
Ammonium chloride solution	up to 10%	+			
Ammonium carbonate solution	up to 50%	+	Others		
Ammonium nitrate solution	up to 50%	+	Witty Pool Red SE		+
Ammonium sulphate solution	up to 50%	+	Concrete aggressive waters		+
Barium chloride solution	up to 40%	+	Beer		+
Calcium chloride solution	up to 40%	+	Coca-Cola		+
Calcium nitrate solution	up to 50%	+	Dibutylphthalate		+
Iron sulphate solution	up to 30%	+	Developer solution		+
Potassic carbonate solution	up to 20%	+	Glycerine		+
Potassic permanganate solution	up to 5%	+ (staining)	Whey		+
Common salt solution	until saturated	+	Hydrogen peroxide	until concentrated	+
Copper sulphate solution	up to 15%	+			
Sodium thiosulfate solution	up to 20%	+			
Zinc chloride solution	up to 50%	+			
Brine water		+			

Please note

- **For professional/industrial use only!**
- Wear suitable protective 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 0.4mm by Kächele-Cama Latex GmbH. The maximum period to wear these gloves is eight hours when working with epoxy resins.
- Do not use at substrate temperatures below +10°C.
- The best temperature for grouting with PCI Durapox NT and/or PCI Durapox NT plus is at +20°C.
- Clean swimming pool thoroughly before filling, disinfect if necessary. The chlorine value should be higher in the beginning. Detailed information on the initial operation of a swimming pool is available in the technical leaflet "Our Advice!" No. 2, available on our website under www.pci-augsburg.eu.
- **It is important to provide for proper disinfection and purification of the swimming pool water to create perfect hygienic conditions in the swimming pool in accordance with DIN 19643-1. Proper cleaning of the coverings must be guaranteed.**
- It is necessary to have a full-surface bedding of the covering when tiling outdoors, in swimming pools, in swimming pool surrounds and if floor coverings are subject to extreme demands. It is necessary for the proper laying of glass mosaic that the substrate is level and without any irregularities.
- Joints must be raked clean from any bedding mortar before curing to ensure proper, stain-free grouting of mosaic tiles.
- Tiling and grouting of translucent or transparent mosaic must be carried out with PCI Durapox NT or PCI Durapox NT plus.
- PCI Durapox NT and PCI Durapox NT plus are no replacement for required waterproofing measures in accordance with waterproofing standards.
- Ask for technical advice when grouting profiled, anti-slip tile surfaces.
- Use only little water for cleaning. Do not empty into drains.
- Final cleaning should be thoroughly carried out to remove the remaining film transparent and hardly visible while wet, otherwise heavy contamination of the covering is expected when in use.
- The use of cleaning agents containing organic acids might cause white staining of the cured joint.
- Never add water, PCI Spezial-Reiniger Epoxi (special epoxy cleaner), spirit or other liquids to dilute PCI Durapox NT and PCI Durapox NT plus for the application.
- Leave open perimeter joints and expansion joints before grouting.
- Close joints between ceramic, render, concrete, fittings and pipe culverts as well as corner joints and connection joints with an elastic sealant.
Standard application:
 - PCI Silcofug E,
 - PCI Silcoferm SWhen subject to chemicals:
 - PCI Elritan 140.
- PCI Durapox NT and PCI Durapox NT plus contain pigments. Produce a test area before grouting unglazed and anti-slip tiles (pigment stains).
- White stains might occur when using acid-containing cleaning agents too soon.
- The assured properties only apply to the material, not to the surfaces laid and/or grouted with PCI Durapox NT and/or PCI Durapox NT plus.
- A joint depth of at least 3 mm is necessary when regrouting.
- It is necessary to rewash with clear water if PCI Spezial-Reiniger Epoxi (special epoxy cleaner) was added to the final washing water.
- There is a risk of yellow staining when using the colour aged white especially in contact with materials containing chlorine.
- The colour aged white should not be used for floor areas or outdoors due to its proneness to dirt.
- Fill washing water in barrels and allow to sediment. The sedimented and cured epoxy resin can be disposed of as construction waste.
- Suitable tools are available from e.g. Collomix GmbH, Horchstraße 2, 85080 Gaimersheim/ Germany, www.collomix.de.
- Clean tools with water immediately after use. Avoid risk of splashes and wear protective gloves. The cured product can only be removed by mechanical scraping.
- Shelf life: min. 12 months; store in a dry place, no permanent storage over +30°C. Dissolve crystallized base component in warm water (up to +50°C) and mix thoroughly. Do not mix with the hardener component until cooled down to room temperature.

Declaration of Performance

The Declaration of Performance can be downloaded on the Internet under www.pci-augsburg.eu/produkte/leistungserklaerung.

Information on the safe use

Safety goggles must be worn when mixing the components. Skin contact with the mixed materials and/or

individual components may cause skin irritation, contact with the hardener may even cause burns. Contact with skin

must therefore be absolutely avoided, e.g. by wearing protective gloves.

Base component

PCI Durapox NT

Contains BISPHENOL-A-EPICHLORHYDRIN RESINS M ≤700. Causes serious eye irritation. 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. Contaminated work clothing should not be allowed out of the workplace. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of

soap and water. IF SKIN IRRITATION OCCURS: Get medical advice/attention. If eye irritation persists: Call a POISON CENTER or doctor. Take off contaminated clothing and wash it before reuse. Collect spillage. Dispose of contents/container to hazardous or special waste collection point.

PCI Durapox NT plus

Contains BISPHENOL-A-EPICHLORHYDRIN RESINS M ≤700. Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. Harmful to aquatic life with long lasting effects. Wear protective gloves and eye/face

protection. Avoid breathing vapours. Avoid release to the environment. Contaminated work clothing should not be allowed out of the workplace. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of soap and water. IF SKIN IRRITATION OCCURS: Get medical advice/attention. If eye irritation persists: Call a POISON CENTER or doctor. Take off contaminated clothing and wash it before reuse. Collect spillage. Dispose of contents/container to hazardous or special waste collection point.

Hardener component

PCI Durapox NT

Contains isophorondiamine, N-(3-aminopropyl)-N-dodecyl-propane-1,3-diamine, calcium oxide, portland cement.

Causes severe skin burns and eye damage. Harmful if swallowed. May cause an allergic skin reaction. May cause damage to organs (kidney) through prolonged or repeated exposure. Very toxic to aquatic life. Avoid breathing vapours or mist. Wear protective gloves/clothing and eye/face protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water and soap. 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. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing. Take off contaminated clothing and wash it before reuse. Collect spillage. Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/container to hazardous or special waste collection point.

PCI Durapox NT plus

Contains isophorondiamine, N-(3-aminopropyl)-N-dodecyl-propane-1,3-diamine, calcium oxide, portland cement. Causes severe skin burns and eye damage. Harmful if swallowed. May cause an allergic skin reaction. Very

toxic to aquatic life. Avoid breathing vapours. Wear protective gloves/clothing and eye/face protection. Avoid release to the environment. Do not eat, drink or smoke when using this product. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water and soap. 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. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing. Take off contaminated clothing and wash it before reuse. Collect spillage. Dispose of contents/container to hazardous or special waste collection point.



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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, photographs, 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. Liability is accepted for incomplete or incorrect particulars in our data sheets only in the event of intent or gross negligence, without prejudice to claims under product liability laws. All transactions are subject to our Terms of Sale and Supply.

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German Edition July 2015; the latest edition is always available on the Internet under www.pci-augsburg.de