

pleyers. worldwide



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Distribution
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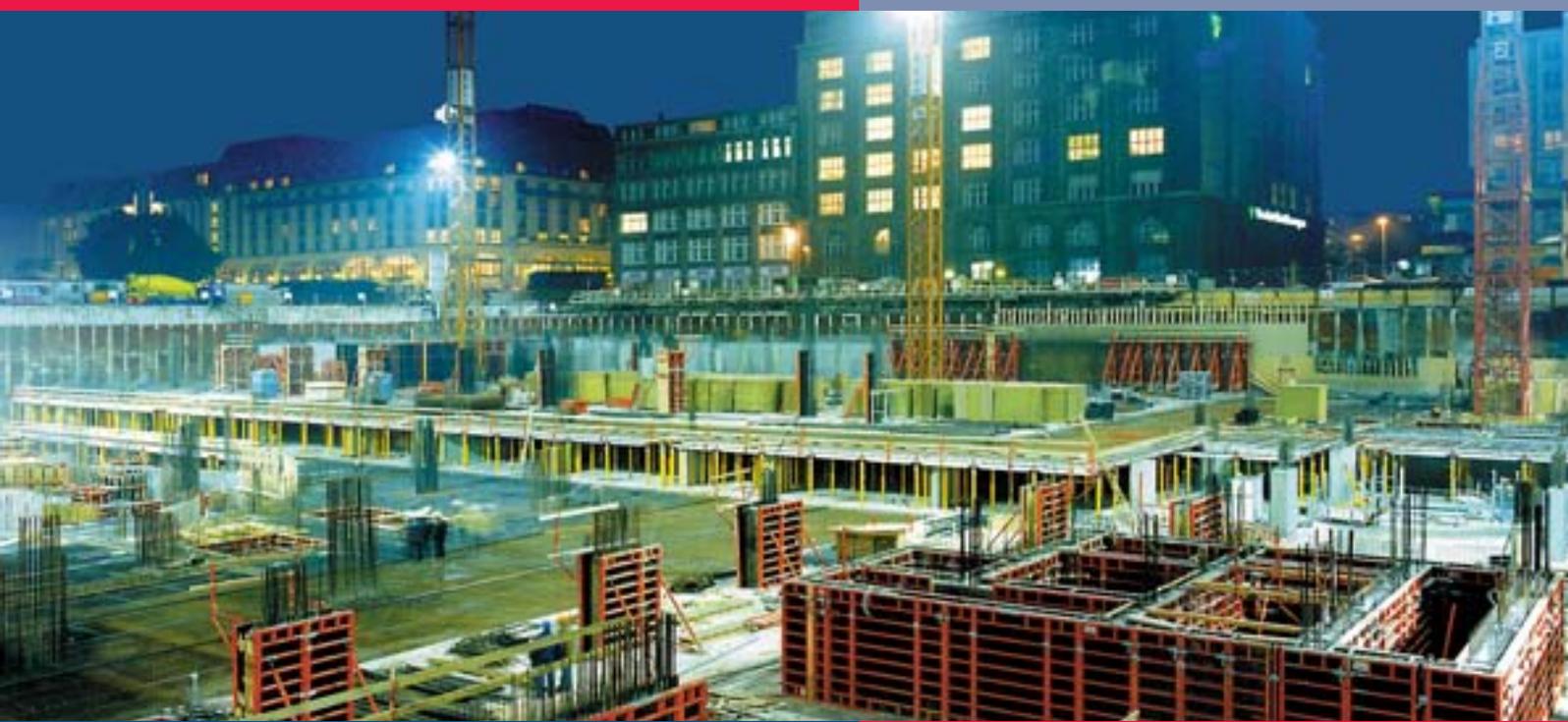
pleyers. bau innovationen gmbh

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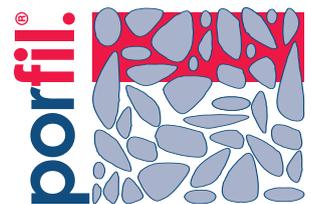
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Innovative surface technology and design



pleyers. bau innovationen



PREFACE

bau innovationen

Profile

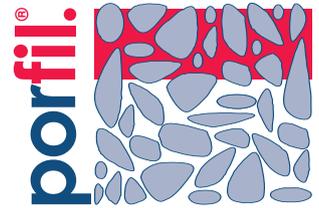
Our civil engineers, chemists and architects are continuously developing new and innovative products to protect building materials and to achieve well-designed surfaces based on our worldwide patented porfil.[®] technology. We support our clients in any kind of planning, construction and building activities according to the specific technical guidelines.

Products

Our worldwide patented porfil.[®] technology and the related products for the protection and designing attractive surfaces correspond to the highest technology standards and offer a completely new system for the sealing of structures and surface finishing. All our products run through special test procedures in our own laboratories and in external institutes. The permanent enhancement of our products and further new developments enable us to offer our clients competitive benefits by means of innovative solutions regardless if it is the construction of a parking site or the very fast covering of concrete surfaces.



Content



Basics	4
porfil. [®] characteristics	6
Products and system applications	8
Products	
porfil. [®] BASIC S	10
porfil. [®] PLUS X + pleyers. WB 800	12
porfil. [®] PLUS X + pleyers. porbits [®]	14
porfil. [®] PLUS X + pleyers. SF 800	18
porfil. [®] PLUS	22
porfil. [®] BIT	26
References	28
Partners	30

Basics

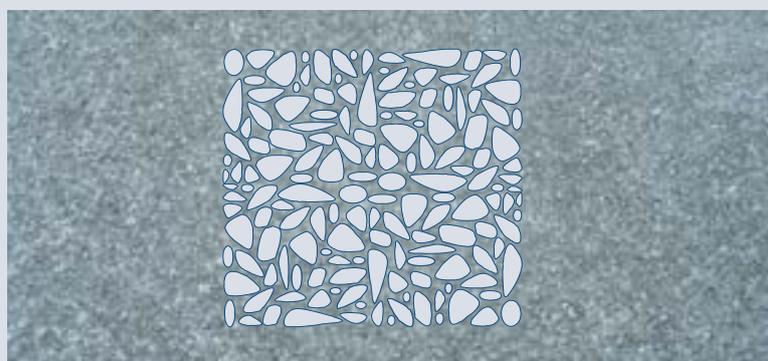
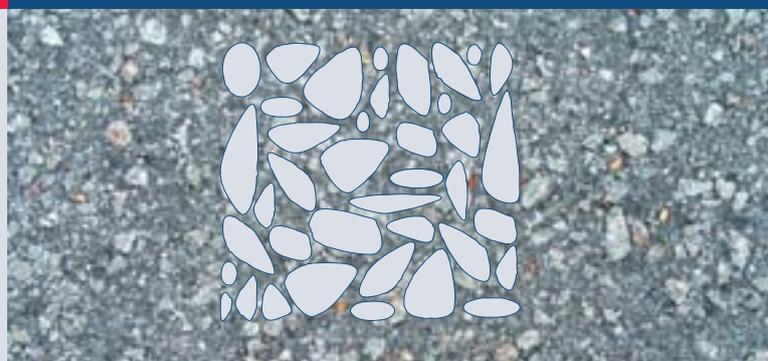
Protection principles of rigid surfaces

Concrete/screed and pores

Mineral building materials consist of cement, water, additives and additional substances - in a varying quality and quantity.

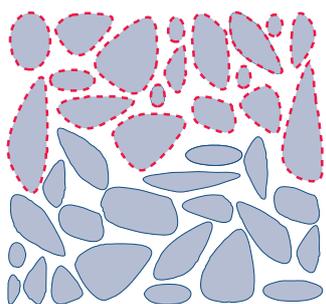
The solidification of the building material starts in the course of the chemical reaction (hydration), and depending on the formulation, densification and other edge conditions (such as ambient temperature and humidity for example) concrete, screed and mortar of different quality and varying pore-sizes are produced. Even high density concretes have pores.

- **The more water, the more pores due to the elusion of exceeding water**



Conventional

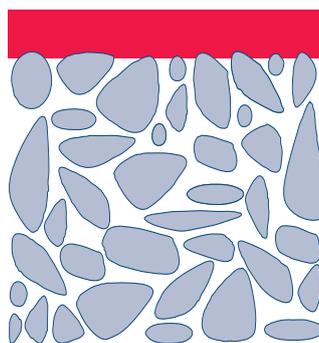
Impregnation



Covering of the pore-walls

- Open pores due to the evaporation of solvent or water
- non-permanent
- ➔ insufficient protection

Coating



Layer forming

- direct mechanical exposure
- adhesion problems
- high application rate
- ➔ insufficient protection

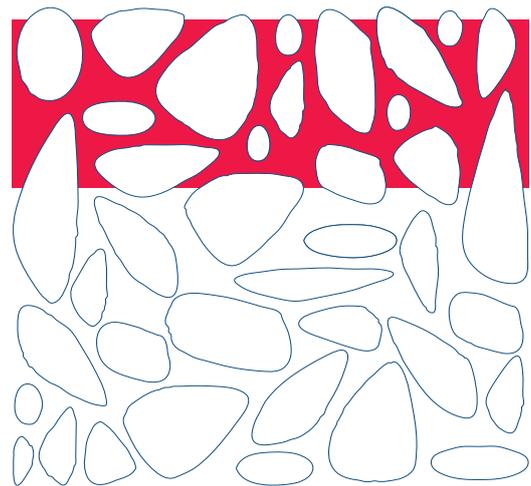
porfil.[®] Characteristics

Pore-filling sealant for concrete, mortar or screed surfaces

Conventional techniques for the sealing and durable protection of parts made of concrete, mortar or screed suffer from generally known and already described disadvantages. Inadequate protection, adhesion or cohesion failure are detected time and again.

The pore-filling sealant **porfil.[®]** penetrates the building material, protects it from rear surface moisture and seals it resistant to pressurised water. In addition, the mechanical parameters such as abrasion resistance and adhesive pull strength are improved, the deformation behaviour is reduced and the acid resistance (pH>4) of the surface is enhanced.

NEW with **porfil.[®]**



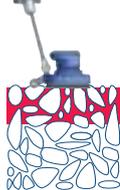
CHARACTERISTICS



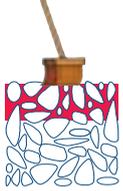
High mechanical resistance



Covering with all kinds of floor coverings



Surface preparation: grinding approved



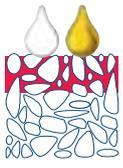
Easy to clean



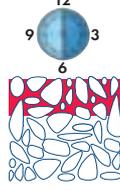
Very good grip



UV resistant



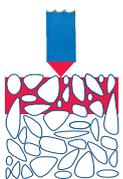
Chemical resistance
(oil, diesel, kerosene etc.)



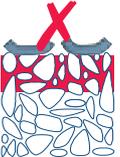
Curing of fresh (green) concrete
(can be treated after 6 hours)



Application temperature: 0°C up to 50°C



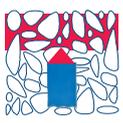
Resistant to pressurised water up to 5 bar
(from the surface)



No adhesion problems



Potable water certification



Resistant to pressurised water up to 5 bar
(from the rear surface)

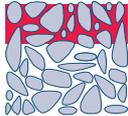
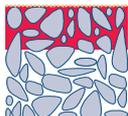
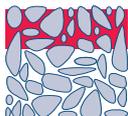


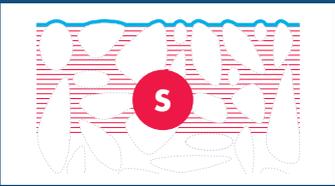
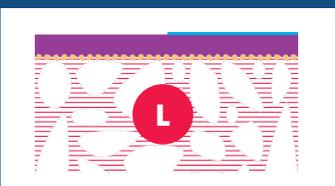
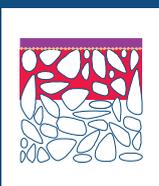
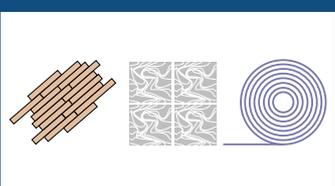
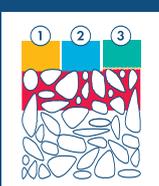
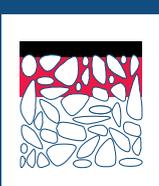
Discharge capacity



Heat resistant

Products and system applications

Products	Systems	1st step	+ 2nd step
porfil. [®] BASIC S	pleyers porfil. [®] protect XS		— (if necessary pleyers.WB 800 transparent matt)
porfil. [®] PLUS X + pleyers.WB 800 (coloured)	pleyers porfil. [®] protect S		coloured top coat
porfil. [®] PLUS X + pleyers.porbits [®]	pleyers porfil. [®] protect M		— (if necessary pleyers.WB 800 transparent matt)
porfil. [®] PLUS X + pleyers.SF 800	pleyers porfil. [®] protect L		self-levelling coating (if necessary pleyers.WB 800 transparent matt)
porfil. [®] PLUS X + pleyers.SF 800	pleyers porfil. [®] protect XL		self-levelling crack-bridging coating (if necessary pleyers.WB 800 transparent matt)
porfil. [®] PLUS	—		0. levelling compound 1. Parquet, laminate 2. Flags or tiles, marble 3. Carpet, PVC, linoleum
porfil. [®] BIT	—		Bitumen sheetings

2nd step	Result	Application	Page
		<p>Pore-filling, sealing primer; transparent surface protection</p>	10
		<p>Pore-filling sealant; highly resistant surface protection against abrasion; coloured surface protection; for car parks etc.</p>	12
		<p>Pore-filling sealant; innovative surface design for car parks etc; simple, durable, fast and jointless</p>	14
		<p>High quality, film-forming coloured surface protection for car parks etc.</p>	18
		<p>Crack-bridging and coloured surface protection; highly resistant against abrasion; for car parks etc.</p>	20
		<p>Fast covering of concrete, mortar or screed surfaces; powerful bonding for consecutive works</p>	22
		<p>Sealant for bridges, flat roofs and car parks</p>	26

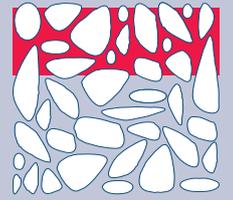
porfil® BASIC S

Curing agent for concrete parts or concrete, mortar and screed surfaces

porfil® BASIC S is the pore-filling and pressurised water resistant protection and sealant for cement-based surfaces (for example concrete, screed). It can be applied at temperatures down to +4°C irrespective of the type of cement, the water-cement value or the hydration suction. An absorbing surface is the only requirement. This early post-treatment leads to a lasting reduction of shrinkage deformations.

Due to the fact that the pore-filling with **porfil® BASIC S** is not film-forming, the problems concerning adhesion and/or cohesion damages do not occur. While maintaining the discharge capacity of the underground, the mechanical parameters such as abrasion resistance and adhesive pull strength are improved. The achieved surface is acid-resistant (pH >4). This leads to a pore-filled, sealed surface that can be used directly or is post-treated with coatings, adhesives etc.





BASICS



Advantages:

- + barrier coefficient according to German standard TL NBM, roads made of concrete >75%
- + reduction of plastic shrinking cracks due to early drying out
- + no hydration suction required
- + application irrespective of the water-cement value (only requirement is an absorbing underground)
- + can be applied at temperatures down to +4°C
- + fast covering or coating with appropriate paintings, coatings or covering adhesives
- + improvement of the mechanical parameters (abrasion resistance and adhesive pull strength)
- + resistant against chemicals, oil, grease, kerosene etc.
- + protection of the underground against penetration of chlorides etc.
- + discharge capacity according to German standard DIN IEC 61340, DIN 100015, DIN EN 1081-98, ASTM F 150-98



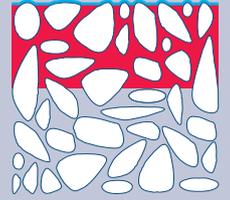
pleyers. **WB 800**

The scratch resistant, easy-to-clean,
and coloured matt top coat

pleyers. WB 800 is the highly abrasive resistant, system-oriented sealant of the system **pleyers porfil. protect **S****. In combination with **porfil.® PLUS X** no adhesion or cohesion damages occur with **pleyers. WB 800**.

The sealed surface is resistant to oil, grease, kerosene and chlorides as well as chemicals ($\text{pH} \geq 2$). The system application of **pleyers. WB 800** provides an important improvement of all mechanical parameters, such as abrasion resistance and adhesive pull strength.





Advantages:

- + highly wear-resistant coloured surface protection
- + plus all the technical properties of **porfil. PLUS X** (p. 22)
- + resistant to pressurised water
- + protects against rear surface moisture
- + combined protection for fresh concrete and other surfaces
- + improvement of mechanical parameters (abrasion resistance and adhesive pull strength)
- + resistant against chemicals, oil, grease, kerosene etc.
- + prevents penetration of chlorides etc.
- + easy-to-clean surface

WB 800

pleyers. porbits[®]

The jointless, wear-resistant, fast and durable surface

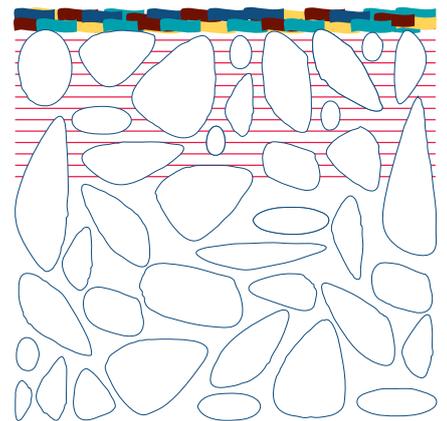
porbits[®] is the jointless, wear-resistant and fast surface-finish, that can be applied to almost any kind of ground (concrete/screed, old coatings, asphalt, wood, steel, cement-based levelling filler, ...) inside, outside and also in permanent wet areas.

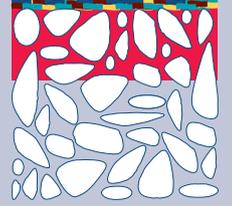
They stand out due to the simple application and the high mechanical and chemical resistance (pH > 4) with minimum layer thickness. The surface grip and the correlating cleanability is infinitely adjustable.

As fixing binder **porfil.[®] PLUS X** must be used. The porefilling sealant penetrates the building material, protects it from rear surface moisture and seals it resistant to pressurised water.

By sealing the surface with the waterbased 2K-PU topcoat **pleyers. WB 800** the mechanical and chemical resistance is increased. As a result an improvement in the cleanability is achieved and the application range can be expanded to hygienic demanding surfaces, e.g. canteen kitchens or hospitals.

NEW
with **porbits[®]**





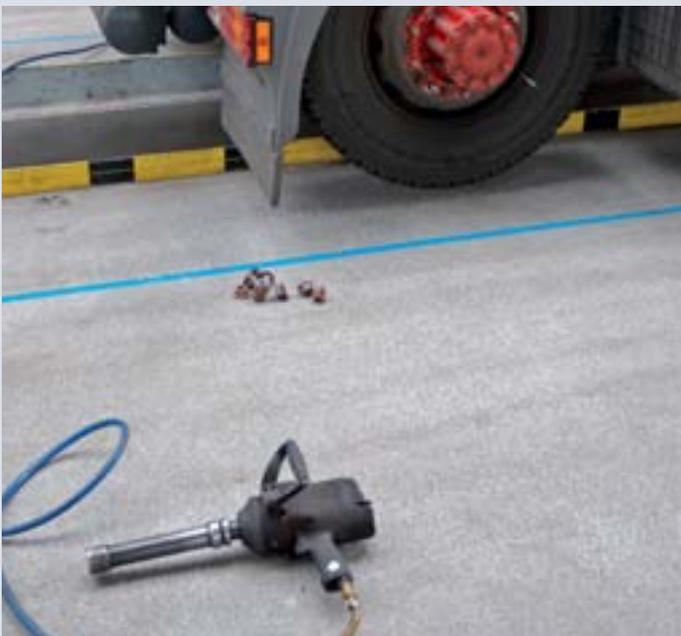
PORBITS



Advantages:

- + jointless
- + tested product according to the german guidelines and standards for repair and protection of concrete (RiLi-SiB)
- + almost any kind of ground can be treated
- + application nearly independent of the weather
- + fast, repairable and smoothly expandable
- + easy to clean
- + high mechanical and chemical resistance
- + variable grip
- + variable colour design
- + extreme durability
- + drivable (cars, trucks, forklifts, airplanes,)
- + UV-resistant

pleyers. porbits[®] Application samples



Truck Petrol- and servicestation

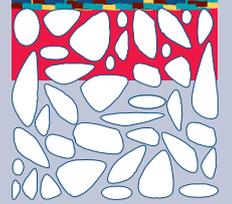
Shipping Company Hintzen
Eschweiler (Germany)

- + mechanical and chemical resistance
- + extreme durability
- + application nearly independent of the weather
- + drivable (trucks, forklifts, ...)

Sales- and outside areas

Construction material store Küppers
Kaarst (Germany)

- + different grounds: young and old screed, old coating, asphalt, ...
- + easy to clean
- + mechanical stress (pallet mover, ...)
- + smoothly expandable



PORBITTS



Carpark

Ed. Züblin
Stuttgart (Germany)

- + tested product
for repair & protection
of concrete (RiLi-SiB)
- + variable grip
- + extreme durability

Visitor terrace

DIFC – Dubai International Financial Center
Dubai (United Arab Emirates)

- + UV-resistant
- + jointless
- + variable grip
- + variable colour design

pleyers. SF 800

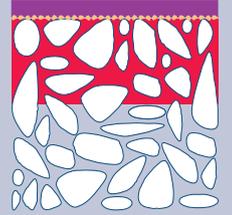
The self-levelling, solvent free polyurethane coating

pleyers. SF 800 is the highly abrasive resistant coating of the system **pleyers porfil.[®] protect **L****. In combination with **porfil.[®] PLUS X** no adhesion or cohesion damages occur with **pleyers. SF 800**. The micro texture provided by the surface preparation ensures that the base layer remains easy to clean.

The sealed surface is resistant to oil, grease, kerosene and chlorides as well as chemicals (pH value ≥ 4).

For improved abrasion, slip and chemical resistance the top coat **pleyers. WB 800** can be applied.





SF 800



Advantages:

- + highly wear-resistant film-forming coloured surface protection
- + plus all the technical properties of **porfil. PLUS X** (p. 22)
- + resistant to pressurised water
- + protects against rear surface moisture
- + combined protection for fresh concrete and other surfaces
- + improvement of mechanical parameters (abrasion resistance and adhesive pull strength)
- + resistant against chemicals, oil, grease, kerosene etc.
- + prevents penetration of chlorides etc.
- + easy-to-clean surface

pleyers. **SF 800**

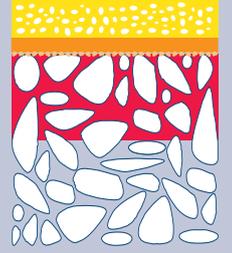
The self-levelling, crack-bridging, filled polyurethane coating

pleyers. SF 800 is the certified, crack-bridging and highly abrasive resistant coating of the system **pleyers porfil.[®] protect XL**. In combination with **porfil.[®] PLUS X** no adhesion or cohesion damages occur with **pleyers. SF 800**. The micro texture provided by the surface preparation ensures that the underground remains easy to clean.

The sealed surface is resistant to oil, grease, kerosene and chlorides as well as chemicals (pH value ≥ 4).

For improved abrasion, slip and chemical resistance the top coat **pleyers. WB 800** can be applied.





SF 800



Advantages:

- + highly wear-resistant film-forming coloured surface protection
- + plus all the technical properties of **porfil. PLUS X** (p. 22)
- + resistant to pressurised water
- + protects against rear surface moisture
- + combined protection for fresh concrete and other surfaces
- + improvement of mechanical parameters (abrasion resistance and adhesive pull strength)
- + resistant against chemicals, oil, grease, kerosene etc.
- + prevents penetration of chlorides etc.
- + easy-to-clean surface

porfil® PLUS

Surface primer and water-blocker in one step for the covering of concrete, mortar and screed surfaces

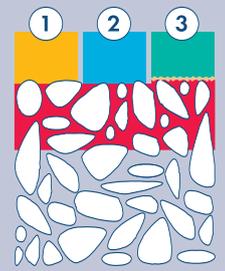


porfil® PLUS can be applied to all conventional concrete, mortar and screed surfaces. By applying **porfil® PLUS** 2 to 4 days after installation of the concrete, mortar or screed surface, the conventional waiting time until covering of the surface can be carried out, is shortened to 3 to 5 days. The water-vapour-diffusion is reduced in such a degree that deformations due to one-sided drying-out are reduced.

For perfect bonding capabilities fire-dried silica sand is applied to the still wet **porfil® PLUS**.

Application on floor-heating screeds saves the time-consuming and costly heating program until the surface is ready for covering. After the tack-free drying of **porfil® PLUS** the functional heating of the underfloor heating can be carried out. Following the floor can be covered with e.g. parquet, carpet, tiles, ...





PLUS



Advantages:

- + very fast covering of concrete, mortar and screed surfaces only 3 to 5 days after installation of the surface
- + can be used under carpet floors, tiles, parquet, PVC, linoleum, coats of paint or other coatings
- + no additional primer required
- + improvement of mechanical parameters (abrasion resistance and adhesive pull strength)
- + easy-to-clean surface (plasters, soilings, etc. can be easily removed)
- + very easy and fast application

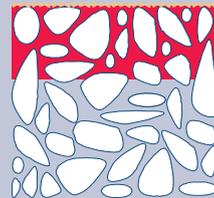
porfil.[®] PLUS

The problem-solving primer for coatings and coverings of all type

porfil.[®] PLUS is the pore-filling and pressurised water resistant primer and sealant suitable to be applied under epoxy resins, polyurethanes, fillers, adhesives for coverings etc. For perfect bonding capabilities fire-dried silica sand is applied to the still wet **porfil.[®] PLUS**. The application can be carried out, an absorbing surface assumed, down to temperatures of 4°C.

The certified feature of durability under the condition of continuous rear surface moisture ensures that no adhesion or cohesion damages occur.





PLUS



Advantages:

- + barrier coefficient according to German standard TL NBM, roads made of concrete >75%
- + reduction of plastic shrinking cracks due to early drying out
- + no hydration suction required
- + application irrespective of the water-cement value (only requirement is an absorbing underground)
- + can be applied at temperatures down to +4°C
- + fast covering or coating with appropriate paintings, coatings or covering adhesives
- + improvement of the mechanical parameters (abrasion resistance and adhesive pull strength)
- + resistant against chemicals, oil, grease, kerosene etc.
- + protection of the underground against penetration of chlorides etc.
- + discharge capacity according to German standard DIN IEC 61340, DIN 100015, DIN EN 1081-98, ASTM F 150-98



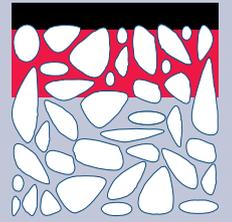
porfil.[®] BIT

Pore-filling sealant under bitumen sheetings

System-oriented special sealing material as pore-filling sealant and surface protection for bridges made of concrete, car parks and similar applications in relation with a thickening layer according to ZTV-ING, Part 7, section 1. **porfil.[®] BIT** is particularly appropriate for short treatment periods and low treatment temperatures.

Due to its extreme low viscosity, **porfil.[®] BIT** has an excellent penetration ability in concrete and is therefore able to fill the pores and seal the concrete. The material consumption depends on the specific characteristics of the concrete underground, such as absorbency, roughness and humidity; application temperature and ambient temperature have also an influence on material consumption.





BIT



Advantages:

- + tested product according to German guidelines and standards for repair & protection of concrete (class OS7; TL/TP-BEL-EP / ZTV BEL B / DIN EN 1504)
- + heat resistant when applying bitumen sheetings
- + no risk of osmotic bubbling
- + improvement of mechanical parameters (adhesive pull strength)
- + resistant against rain directly after application (in the non-reacted state)
- + short waiting periods, the bitumen sheeting can be applied on the uncured epoxy resin directly after the last working cycle
- + can be applied at temperatures between +0°C and +50°C
- + no spreading of silica sand required
- + offers the characteristics of a sealant
- + sealing of fresh concrete or mortar possible after only 24 hours



References

	References	Requirements	Building owner	Partner
	Offshore platform Rio de Janeiro, Brazil	protection against saltwater, oil etc.	Petrobras, Brazil 	DURAFLEX® ADIC GROUP
	Metro/Underground Berlin, Germany	protection against pressurised water from the rear side	Metro (BVG), Berlin 	TORKRET
	New railway Station Berlin, Germany	water proofing of upper levels	German Railway AG 	WALTER · BAU · AG 
	Underground parking site, Frankfurt, Grmany	surface protection, pro- tection against pressurised water from the rear side, high abrasion resistance		
	Concrete bridges Germany	protection of bridge deck surfaces on fresh (green) concrete	Federal Highway Research Institute 	
	Apartmenthouse Cologne, Germany	quick parquet flooring application on cement screed		
	Underground parking site, Dorint Hotel Mannheim, Germany	protection of concrete slab foundation, protection against pressurised water from the rear side, high abrasion resistance		
	Petrol station Düsseldorf, Germany	Surface protection of concrete slab foundation, oil and petrol resistance, easy to clean surface	Farmont KG	Farmont KG
	Concrete bridge Tokyo, Japan	protection of bridge deck surfaces	Chatani, Tokyo, Japan 	Chatani, Tokyo, Japan 
	Concrete bridges Netherlands	protection of bridge deck surfaces on fresh (green) concrete at low tempera- tures (down to 0°C)	Ministerie van Verkeer en Waterstaat 	

References

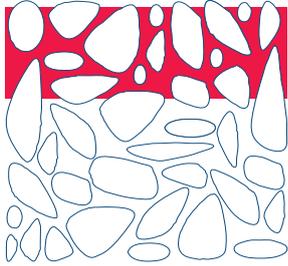
References	Requirements	Building owner	Partner
 <p>Aquana, swimming pool Würselen, Germany</p>	<p>surface protection of concrete slab foundation, protection against pressurised water from the rear side</p>	<p>Aquana GmbH</p> 	<p>Aquana GmbH</p> 
 <p>Motor production Ingolstadt, Germany</p>	<p>oil resistant, easy-to-clean surface</p>	<p>Audi AG</p> 	
 <p>Motorway A40 Düsseldorf/Venlo Germany, Netherlands</p>	<p>protection of concrete top surface, high abrasion resistance</p>		
<p>Cookies production Nürnberg, Germany</p>	<p>fast restoration of concrete slab</p>		
 <p>Transformer station Leipzig, Germany</p>	<p>fast screed work progress, surface protection of concrete slab foundation</p>	<p>Stadtwerke Leipzig</p> 	
 <p>Car store Cologne, Germany</p>	<p>quick flagstone flooring application on cement screed</p>		<p>WOHA-Estrich GmbH</p>
 <p>Main Taunus Center Germany</p>	<p>surface protection, high abrasion resistance</p>		
 <p>Jebel Ali "L" Power Station, Phase 1 Dubai, U.A.E.</p>	<p>curing and coating of a concrete construction</p>	<p>DEWA</p>  <p>Dubai Electricity and Water Authority</p>	<p>Tricon Contracting & Trading CCC</p>
 <p>Drinking water tanks Dubai, U.A.E.</p>	<p>agent and water-resistance</p>	<p>Burj Dubai Development</p> 	<p>Tricon Contracting & Trading Arif & Bintook/Dar Consulting mace</p>
 <p>Bridge Steinebrück, Belgium</p>	<p>quick protection of bridge deck surfaces on fresh (green) concrete</p>	<p>Ministry of transport, Belgium</p>	<p>Antoine van Alphen B.V.</p>  <p>GAMA, Brüssel</p>

Partners

Partner	Product	Country/Region
<p>Henkel KGAA, Düsseldorf, Germany</p> 	<p>porfil.® PLUS Thomsit R756 Ceresit CN99</p>	<p>Germany, Greece, Great Britain, Ireland, Austria, Portugal, Switzerland, Netherlands, Belgium, Luxembourg</p>
<p>Silikal GmbH, Mainhausen, Germany</p> 	<p>porfil.® BASIC MMA</p>	<p>Worldwide</p>
<p>A. van Alphen B.V., Ninove, Belgium</p> 	<p>porfil.® PLUS (X) porfil.® BASIC S porfil.® BIT pleyers. porbits®</p>	<p>Belgium, Netherlands, Luxembourg</p>
<p>Pürkay, Istanbul, Turkey</p> 	<p>porfil.® PLUS (X) porfil.® BASIC S porfil.® BIT pleyers. porbits®</p>	<p>Turkey, Ukraine, Bulgaria, Romania</p>
<p>Henkel Polybit, Sharjah U.A.E.</p> 	<p>porfil.® PLUS (X) porfil.® BASIC S porfil.® BIT pleyers. porbits®</p>	<p>U.A.E.</p>
<p>Sika GmbH, Stuttgart, Germany</p> 	<p>porfil.® BIT</p>	<p>Germany</p>
<p>TRICON Trading & Contracting</p>	<p>porfil.® PLUS (X) porfil.® BASIC S porfil.® BIT pleyers. porbits®</p>	<p>Sharjah/Dubai, U.A.E.</p>
<p>Golden Hope Limited Partnership Klongtonnua, Wattana Bangkok, Thailand</p>	<p>porfil.® PLUS (X) porfil.® BASIC S porfil.® BIT pleyers. porbits®</p>	<p>Thailand</p>
<p>Marvel Harvest Ltd. Chaiwan, Hong Kong, China</p>	<p>porfil.® PLUS (X) porfil.® BASIC S porfil.® BIT pleyers. porbits®</p>	<p>Hong Kong, China</p>

Notes

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