

PROJECT REPORT

Augsburg, 20.10.2022

PCI provides recommendation and building materials for coating an underground car park of around 800 square meters

Defy all influences with OS 8

Underground and multi-storey car parks are exposed to extreme stress. In addition to high mechanical loads, heat and cold, wet and damp as well as de-icing salt and oil deposits affect the floor and attack the surface. A high-quality and professional coating is essential to ensure that the concrete floor does not become a need for repair at an early stage. When building an underground car park in Frechen, a city west of Cologne, the builder therefore opted for PCI products. The coordinated products with CE marking correspond to the surface protection system OS 8.

Planned by PSA Ges. für Modernes Bauen mbH and executed by the subsidiary, P.S.A. Bauunternehmung GmbH, a new residential complex with an underground car park was built in Frechen. Construction started in the summer of 2019, and the 35 modernly equipped condominiums were ready for occupancy in May 2021. For the surface coating of the underground car park with 27 parking spaces, the contractor contacted PCI Augsburg GmbH on the recommendation of its building materials partner.

After a meeting with PCI consultant Sascha Wilden, the PCI application technology department prepared the installation recommendation for the P.S.A. Bauunternehmung. Sascha Wilden came on site for a second meeting together with the PCI service technicians to clarify technical details such as rising components, the layout of coverings, and to plan the preparatory work. The coating work started in spring 2021 as soon as the

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temperatures allowed it. PCI supported with the briefing on the products and how to apply them.

OS 8 surface protection system in underground car parks

The OS 8 coating as a rigid coating is intended especially for underground car parks. The coating which is to be applied in liquid form protects the road surface against moisture and road salt. The coating consisting of a primer, scratch coat, leveling coat and a top coat, is applied in a layer thickness of at least 2.5 millimeters. The top coat acts both as a coloring layer and as a wear layer.

With its comprehensive product range, PCI offers solutions for a wide variety of surface protection systems, most recently also the rigid OS 8 coating, the flexible OS 11b coating for intermediate decks and a coating for underground car park ramps.

Professional installation of covings

The Antonius Karree underground car park with around 800 square meters was coated in two stages. The P.S.A. Bauunternehmung was on duty for around three days with five employees. First they had to carry out the surface test: This includes, among other things, the measurement of adhesion values as well as the humidity and temperature of substrate and air. The dew point must be determined from the moisture and temperature data which must not fall below during processing and curing.

It was first necessary to install covings, wedges and ramps in the transition to rising components to avoid puddles of water, for example. For this purpose, the craftsmen used the 2-component epoxy primer PCI Apoten OS P as well as quartz sand including previously priming.

Primer and scratch coat with PCI Apoten OS P

The highly absorbent substrate was primed with the 2-component epoxy primer PCI Apoten OS P and then sanded with quartz sand with a grain size of 0.3 - 0.8 mm while still fresh. PCI Apoten OS P is also suitable as a binder for producing the subsequent scratch coat. To do this, PCI Apoten OS P was mixed with oven-dried quartz sand (0.1 - 0.4 mm) in a mixing ratio of 1:1 and applied with a squeegee to an even layer thickness. After application, the fresh scratch coat should be sanded again with an excess of quartz sand, grain size 0.3 - 0.8 mm. The craftsmen should take care to avoid heaps and balding. After the surface has hardened, loose grains of quartz sand must be thoroughly swept off and vacuumed off without leaving any residues.

Top layer with PCI Apoten OS TC

The craftsmen used PCI Apoten OS TC within the system as a two-component epoxy top layer. In order to obtain a homogeneous visual surface, they first applied the material by flooding, spread it with a rubber squeegee and then smoothed it out in criss-cross method. Like the two-component epoxy primer used, the top coat is also low-viscous and solvent-free according to TRGS 610. The system, consisting of the two-component epoxy primer and the top coat, is classified according to DIN EN 13813 and EN 1504-2. The craftsmen then filled all existing connection and movement joints with the one-component polyurethane sealant PCI Elritan 140 using a suitable spray gun. They smoothed the surface with PCI smoothing agent. The necessary preparatory work: pre-cleaning the joint flanks, backfilling with DIN backer rod, masking the flanks and applying the PCI Elastoprimer 110 wash primer.

Sealing the basement floor with PCI Apokor W

PSA Bauunternehmung also relied on PCI for the surface sealing of the entire basement floor – even before they started to coat the underground car park. For this purpose, the

craftsmen applied the epoxy sealing PCI Apokor W twice: first diluted with water as a primer and after a waiting period of around 16 hours undiluted as a sealing. The foundation bases were also sealed with PCI Apokor W in the same steps. Beforehand they had filled the transition joints between floor and wall with PCI Elritan 140 according to the procedure already described.

The work in the basement and underground car park was completed on schedule by the end of April 2021. Both the client and the craftsmen are satisfied with the progress and result of the work: "The cooperation with PCI was excellent. We chose PCI because of their advice, support and instruction on the construction site, and that paid off. The products worked optimally within the system and can be processed quickly and easily. We can contact PCI at any time if we have any questions or problems. We will continue to do this in the future!" says David Marx, Site Manager at P.S.A. construction company.

Project data

Main title:	Defy all influences with OS 8
Subtitle:	PCI provides recommendation and building materials for coating an underground car park of around 800 square meters
City:	Frechen
Size:	around 800 qm
Completion:	2021
Tasks:	Coating of an underground car park floor
Products used:	PCI Apoten OS P, PCI Apoten OS TC, PCI Elastoprimer, PCI Glättemittel, PCI Elritan 140, Stellmittel, Quarzsand
Company:	P.S.A. Bauunternehmung GmbH, Neunkirchen
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Images



Completely primed with PCI Apoten OS P - the underground car park with 27 parking spaces under a newly built residential complex in Frechen. (Link to the high-resolution [Photo](#))



For the coating of the approximately 800 m² underground car park, the substrate was first primed with PCI Apoten OS P. (Link to the high-resolution [Photo](#))



PCI Apoten OS P consists of the basic component A and the hardener component B which is added. (Link to the high-resolution [Photo](#))



The scratch coat (PCI Apoten OS P with quartz sand 0.1 - 0.4) was applied to the primer applied the day before using a toothed squeegee. (Link to the high-resolution [Photo](#))



After application, the craftsmen sanded the fresh scratch coat PCI Apoten OS P in excess with quartz sand 0.3 - 0.8. (Link to the high-resolution [Photo](#))



Flooding the sanded scratch coat with PCI Apoten OS TC (link to the high-resolution [Photo](#))



Rolling the top layer PCI Apoten OS TC (link to the high-resolution [Photo](#))

About PCI

PCI Augsburg GmbH is part of MBCC Group and leader in the tile laying materials sector for specialist firms in Germany, Austria and Switzerland. In addition, the company supplies product systems for waterproofing, concrete protection and repair, as well as a complete product range for the flooring sector. The PCI Group employs a staff of more than 1,200 in Europe and generated sales of significantly over €350 million net in 2021. Further information about PCI on the Internet under www.pci-augsburg.de.

About MBCC Group

The MBCC Group is one of the leading suppliers of construction chemicals and solutions worldwide and has emerged from the carve-out of the former BASF Construction Chemicals business from BASF Group. We offer innovative and sustainable products and solutions for the construction industry across different sectors, such as buildings, structures, underground construction, new construction, as well as for renovation. Our strong brands Master Builders Solutions®, PCI®, Thermotek®, Wolman®, Fire Protectors®, Colorbiotics®, Watson Bowman Acme®, TPH®, Bluey® and Nautec™ are well established in the marketplace. With our innovations, we address sustainability challenges in the industry. MBCC Group consists of approximately 70 legal entities worldwide and is home to around 7,500 construction experts in over 60 countries. For more information go to: www.mbcc-group.com. We build sustainable performance.

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