

PROJECT REFERENCE

Augsburg, 07.11.2019

PCI accompanies the refurbishment of the protected power line on the Predigtstuhl in Bad Reichenhall

Concrete refurbishment on the mountain

In 2018 the historic Predigtstuhlbahn celebrated its 90th anniversary in the Bavarian Alps. The old power line is part of the protected railway. Its refurbishment in the anniversary year posed logistical and planning challenges on those involved in the project. PCI accompanied the refurbishment measures just before the onset of winter with specialist advice and delivered the appropriate products.

The Predigtstuhlbahn is known as the “grande dame” among the alpine cable cars. As the oldest, originally preserved large cable car in the world, it is a real nostalgia train and technically still in perfect condition. It takes passengers from Bad Reichenhall to the almost 1,600 meter high mountain station of the Predigtstuhl. Its straight lines with an incline of up to 75 percent and the drive and machine system, which still works purely mechanically, were just as sensational when it was commissioned in July 1928, as was the twelve-sided cabin design. Like the cable car itself, the power line built at that time is also a protected building. Max Aicher, owner of the railway, keeps it functional for the emergency power supply of the mountain. This is necessary in the case of a power outage, for example, when there is too much pressure on the

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new lines. After 90 years of smooth operation, the refurbishment of both the cable car masts and the power line was due in 2018.

The challenge of logistics

The power lines lead to the Predigtstuhl over a length of around 2400 meters. In addition to the main support, there are two more power line masts in the upper third of the mountain in almost inaccessible terrain. However, both of its bases were completely ailing. When it was erected, the construction workers had carried the material up the mountain on foot, so they filled in the missing building fabric with what they found up there: stones and rubble. The use of a helicopter made the refurbishment much easier in 2018, but the logistics were still a challenge. Six helicopter flights were necessary to lift the four tons of building materials, all from PCI. And the way to the construction site was also an adventure for processor Josef Unterrainer as well as PCI specialist advisor Marcus Donhauser and PCI service technician Jürgen Linke: They had to cope with a half-hour descent from the mountain station through completely impassable terrain.

Concrete refurbishment before the onset of winter

The first step in the refurbishment measure was to remove a large area of the concrete from the base and remove rust from the steel. The processor then applied the corrosion protection PCI Elastoprimer 220 as rust protection. The concrete repair was started with the help of a specially made wooden cladding. To enable the rainwater to run off, Josef Unterrainer first made a cap in the upper base area with the variable quick-setting mortar PCI Repament Multi, and a cove in the

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lower area. He used PCI Polyfix plus L. The quick-setting cement mortar sets quickly and cures without cracks after around 25 minutes. Its high compressive and flexural strength enables safe and stable anchoring. Fast-setting and, at the same time, particularly reliable building materials were decisive for this construction site due to the high demands and the imminent onset of winter.

Reliability in waterproofing and grouting

Therefore, PCI Barraseal Turbo was used for waterproofing the base. The flexible mineral waterproofing slurry sets quickly and waterproofs concrete parts permanently and reliably. PCI Barraseal Turbo meets all requirements as a surface protection system of class OS5b according to RiLi-SIB. Josef Unterrainer used PCI Nanocret R4 Fluid to cast the base: The high-strength repair mortar offers long-term security even under extreme stress. Due to its self-compacting flow behavior, filling spaces can be closed in a non-positive manner and free of defects.

Teamwork on the mountain

The processor managed to refurbish the power line at the Predigtstuhl in a team of three employees within two weeks. "This job was a special challenge - it began every morning with the adventurous descent to the construction site. I was glad that we had the advisors from PCI by our side, "says Josef Unterrainer with a smile and adds:" Marcus Donhauser and Jürgen Linke were actively at our side - already during the planning phase and product selection, but also during the entire implementation on the mountain. That gave us security and made a decisive contribution

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to completing the refurbishment work properly and in good time before the onset of winter. "

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Project data

Project:	Concrete refurbishment on the mountain
Subtitle:	PCI accompanies the refurbishment of the protected power line on the Predigtstuhl in Bad Reichenhall
Location:	Predigtstuhl, Bad Reichenhall
Completion year:	2018
Task:	Refurbishment of two concrete bases
Products used:	PCI Nanocret R4 Fluid, PCI Barraseal Turbo, PCI Elastoprimer 220, PCI Repament Multi, PCI Polyfix plus L
Contractor:	Predigtstuhlbahn GmbH & Co. KG
User:	Josef Unterrainer
PCI specialist adviser	Marcus Donhauser
PCI service technician	Jürgen Linke
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Images:



The old power line to the Predigtstuhl cable car was due for refurbishment in 2018, in the 90th anniversary year of the railway. Four tons of PCI building materials were brought to the construction site by helicopter. The first step was to remove the base concrete and remove rust from the steel. PCI Elastoprimer 220 was used as corrosion protection.

Image for download:

<https://pics.pci-augsburg.com/php/index.php?database=1&downloadimage=60768&size=4032x3024&format=&time=1603317599&check=4afc53c3a420a9a347f20165301e176c>

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From corrosion protection to grouting, only PCI building materials were used. PCI specialist advisor Marcus Donhauser and PCI service technician Jürgen Linke were on site.

Image for download:

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For permanent protection, the processor made a cap with PCI Repament Multi in the upper area and a cove fillet with PCI Polyfix plus L in the lower area of the base. PCI Nanocret R4 Fluid was already ready for grouting.

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Construction site at lofty heights: After producing a wooden formwork, processor Josef Unterrainer cast the base with PCI Nanocret R4 Fluid.

Image for download:

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PCI Nanocret R4 Fluid withstands the highest demands.

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Perfectly refurbished: The PCI products protect the base of the old power line on the Predigtstuhl permanently from the weather and moisture.

Image for download:

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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 €300 million net in 2019. Further information about PCI on the Internet under www.pci-augsburg.de.

About MBCC Group

The MBCC Group is one of the world's leading suppliers of construction chemicals products and was created from the former BASF's construction chemicals business following its spin-off from the BASF Group. We offer innovative and sustainable products and solutions for the construction industry for various sectors, such as buildings, infrastructure, civil engineering, new construction and renovation. Our strong brands, such as Master Builders Solutions®, PCI®, Thermotek®, Wolman®, Colorbiotics® and Watson Bowman Acme® are established in the market. With our innovations we face the challenges of sustainability in the industry. The MBCC Group consists of about 70 companies worldwide and employs around 7,500 construction experts in over 60 countries. Further information under: www.mbccgroup.com. We build sustainable performance.

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