

## Durable refurbishment of balconies

### **Good prospects with PCI products**

As a result of their exposed position, balconies and terraces are subject to severe weather conditions and high temperature

- differences. Nevertheless, using innovative tiling systems, it is possible to lay durable coverings on balconies and terraces. In order to achieve this objective, it is important to follow the generally accepted rules of technology or to use proven special solutions. Tiles must be laid using suitable flowable adhesives or by the “floating and buttering” method. It is also essential to provide the slope which is required. In the case of
- buildings constructed in the 1970s, a slope was often not provided or the surface was constructed with a slope in the wrong direction. The example of a residential complex in Offenbach shows how balconies on buildings of this type can be refurbished durably and effectively. In many cases, the 55 balconies of the complex had an inadequate slope. As a result, there were cracks between the tiles and many tiles were either cracked or loose.

During a site visit, PCI technical adviser Andreas Marx and PCI application technician Ingo Grollmisch agreed on the procedure to be adopted with the tiling contractor selected for the project, Michael Port. The first stage was to refurbish three sample balconies. The old tiling was removed and a slight slope of about 1% was provided. This was a compromise as it was not feasible to construct a surface with the slope of 1.5 – 2% that is normally specified. The concrete surface was then

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primed with PCI Gisogrund Rapid, followed by PCI Pecilastic U waterproofing membrane for reliable long-term bonded waterproofing. The membrane was bonded into place using PCI Nanoflott light flowable adhesive. PCI Pectape 120 and PCI Seccoral 1K were applied to the joints between the membranes to provide a watertight seal. Where the surface was penetrated by a drainpipe, a suitable sleeve was bonded into place using PCI Seccoral 1K and the pipe was then inserted.

In order to provide long-term protection against frost damage and efflorescence caused by alkaline silicates, tiles must be laid without voids or with very few voids. This can only be achieved by the “floating and buttering” method or by using innovative flowable adhesives such as PCI Nanoflott light. The key factor is to make up the adhesive with a flowable consistency. The tiles were laid first on the three sample balconies and then on the other 52 balconies in the complex. For grouting, the tilers used the polymer-modified joint grout PCI Flexfug. Corner, connection and expansion joints were filled using PCI Elritan 100 single-component polyurethane joint sealant.

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## Project data

Project title:	Good prospects with PCI products
Subtitle:	Durable refurbishment of balconies
Location:	Offenbach am Main
Year of completion:	2014
Objective:	Refurbishment of the balconies of a residential complex including waterproofing, tile laying and grouting
Project size:	55 balconies with areas of 5 or 9 m <sup>2</sup>
Products used:	PCI Gisogrund Rapid, PCI Pecilastic U, PCI Nanoflott light, PCI Pecitape 120, PCI Seccoral 1K, PCI Flexfug, PCI Elritan 100
Client	HPG Hartmann und Partner GmbH
Architects:	Architekturbüro Günter Engel
Tiling contractor:	Michael Port, Pohlheim
PCI applications technician:	Ingo Grollmisch
PCI technical adviser:	Andreas Marx
Contact:	<b>PCI Augsburg GmbH</b> Piccardstraße 11 86159 Augsburg Phone: 0821 5901-0 Fax: 0821 5901-416 Email: pci-info@basf.com www.pci-augsburg.de

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## Photos:



PCI Augsburg GmbH provided support for the refurbishment of 55 balconies at a residential complex in Offenbach. Initially, three sample balconies were refurbished in cooperation between the architect and the tiling contractor. The remaining balconies were then refurbished using the procedure which had been tested.

<http://pci-pics.com:80/php/index.php?database=2&downloadimage=7183&size=&format=&check=f29c90ff4ed9501cf2add067aa77f049>

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Following the removal of the old tiling, a slope of about 1% was created and the surface was primed using PCI Gisogrund Rapid.

<http://pci-pics.com:80/php/index.php?database=2&downloadimage=7184&size=&format=&check=efa17507246b2c6368730100764d6f04>

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PCI Pecilastic U membranes were used for waterproofing. The entire surface of the membranes was bonded using PCI Nanoflott light adhesive. PCI Pecitape and PCI Seccoral 1K were applied to the joints between the individual membranes.

<http://pci-pics.com:80/php/index.php?database=2&downloadimage=7185&size=&format=&check=16e38a91fb397524afc389784bb3f621>



<http://pci-pics.com:80/php/index.php?database=2&downloadimage=7186&size=&format=&check=49055550ee07633888f3b0d713eeca42>

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Master tiler Michael Port laid the tiles with PCI Nanoflott light adhesive made up to a flowable consistency. This allowed the tiles to be laid with very few voids, with a view to preventing frost damage in the long term.

<http://pci-pics.com:80/php/index.php?database=2&downloadimage=7187&size=&format=&check=b0d1c3b9ddbab900173b04fad4c7da3>

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Corner, connecting and expansion joints were sealed with PCI Elritan 100. For the pipe penetration points, a suitable sleeve was attached to the PCI Pecilastic U waterproofing membrane with PCI Seccoral 1K. The drain pipe was then pushed into position.

<http://pci-pics.com:80/php/index.php?database=2&downloadimage=7188&size=&format=&check=1d6b961d73a710901c6b5c4e1e23f0d5>

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The balcony offers the residents additional comfort and space for relaxation. The new tiling, which has been professionally installed using high-quality products, will maintain its function in the long term.

<http://pci-pics.com:80/php/index.php?database=2&downloadimage=7189&size=&format=&check=ae24cfe2b3b715b1f9da32f644406ac3>

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## **About PCI**

*PCI Augsburg GmbH is part of the business unit Construction Chemicals of BASF 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 soft flooring sector. PCI employs a staff of more than 700 and generated sales of over €220 million net in 2014. Further information about PCI on the Internet under [www.pci-augsburg.de](http://www.pci-augsburg.de).*

## **About BASF**

*At BASF, we create chemistry – and have been doing so for 150 years. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future. BASF had sales of over €74 billion in 2014 and around 113,000 employees as of the end of the year. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (AN). Further information on BASF is available on the Internet at [www.basf.com](http://www.basf.com).*

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