

CETCO Deploys Green Roof Waterproofing System in Poland to Meet Developer's Leak-Resistance Challenge

Roof gardens beautify seafront residential complex; COREFLEX® XP waterproofing membrane lowers installation costs.



PROJECT DETAILS

Gardenia Seaside

Developer:
A&M Kaczorowscy

Approved Applicator:
MaxProjekt

LOCATION

Dziwnów, Poland

PRODUCTS USED

COREFLEX® XP
waterproofing membrane

Nestled between the Baltic Sea and the Wrzosowska Bay (Zatoka Wrzosowska), the Gardenia Seaside residential complex offers spectacular views and peaceful nights. The developer sought to create a space where guests could relax against a beautiful backdrop. The project's scope included architecture that would mesh seamlessly with the surrounding environment. CETCO's COREFLEX® XP waterproofing membrane was selected in the installation of multiple green roofs which were a design requirement.

BACKGROUND

The Gardenia Seaside complex offers condominiums for vacationers and retirees who are looking for a quiet, restful setting and access to local rehabilitation and wellness facilities. The seaside compound consists of four multi-story buildings with connecting underground parking areas. The "green zones" specified by the development architect not only eliminated the unattractive look of concrete surfaces, yet also reduced the carbon footprint of the project and enhanced the guest experience.

However, A&M Kaczorowscy, the developer for the Gardenia Seaside in Dziwnów, Poland, had experiences with poor performance of five previous green roof projects: the bitumen roof layers under the gardens leaked, which led to dangerous and costly damage. In addition to normal water leak prevention, the developer was concerned about another potential problem for the Gardenia Seaside complex – plant root penetration of the waterproofing membrane.

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THE SOLUTION

COREFLEX® XP waterproofing membrane. With its superior strength and durability, COREFLEX® XP waterproofing membrane is considered the gold standard for waterproofing. Consisting of a thermoplastic membrane integrally bonded to a proprietary XP technology core layer, COREFLEX® XP waterproofing membrane is an easy-to-install active waterproofing system. The XP layer is designed to activate with water to swell and form a positive seal. With any unforeseen puncture, the XP layer reacts at the breach, self-sealing to stop the water ingress. COREFLEX® XP waterproofing membrane is the only welded thermoplastic membrane composite with this reactive, self-sealing XP technology feature.

Additionally, COREFLEX® XP waterproofing membrane offers a cost savings relative to other waterproofing systems. While bituminous green roofs typically consist of two or three layers, COREFLEX® XP waterproofing membrane is only one layer, helping to save time and labor upon installation. This project also qualified for CETCO's 15-year warranty for the COREFLEX® XP waterproofing membrane.

These features of COREFLEX® XP waterproofing membrane were extremely important to the architect who had chosen a semi-extensive green roof design. The design utilized low-growing shrubs and grasses as they are shallow-rooted to avoid plant root penetration of the waterproofing membrane. As part of CETCO's quality assurance, CETCO worked with an Approved Applicator, MaxProjekt, who has been trained and certified to install COREFLEX® XP waterproofing membrane.

THE INSTALLATION

The Gardenia Seaside waterproofing project was performed in two phases. Phase I took place in June 2018 and involved an 18,000 square foot waterproof installation that took three weeks including involving flashing work. Phase II in April 2019 involved a 15,000 square foot installation that also took three weeks including flashing work.

All seams were heat welded together to form a strong, monolithic waterproofing membrane. Incorporating a high molecular weight plasticizer, the PVC membrane properties will remain intact for years.

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Typically, a water test requiring thousands of liters of water being poured onto the roof (and then removed) is required to check for water leakage. However, for this project, MaxProjekt deployed an independent electronic waterproofing verification of the entire surface area prior to installing the insulation, sealant layer, ground, and garden placements. This was the first time CETCO used an electronic low-voltage system in Europe to check for water penetration which led to savings in both time and money.

No kettles, solvents, fumes, or open flames were required for the installation. The membrane dry-in time was faster than traditional systems. And the true dual-membrane waterproofing system required only a single application even on the zero slope roofs, saving time and costs. The PVC layer of COREFLEX® XP waterproofing membrane also served as a root barrier, reducing the number of assembly components for the green roof application.

COMPLETE SUCCESS

To date, there have been no leaks on either the Gardenia Seaside I and Gardenia Seaside II green roofs which have been in place for two and one year respectively. The client was fully satisfied with both the COREFLEX® XP waterproofing membrane and service.

OTHER USES

Other COREFLEX® XP waterproofing membrane applications include under structural slabs, property line walls, backfilled walls, split-slab decks, plaza decks, tunnel waterproofing, and new and restoration construction. The PVC membrane and XP Technology Core resists harsh ground contaminants encountered in brownfield sites and allows COREFLEX® XP waterproofing membrane to be installed over existing membranes for remedial plaza deck projects.

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