

Waterproofing Cal Poly Recreation Center Achieved with GCP Waterproofing for Shotcrete Foundations

The completion of the Cal Poly Recreation Center exceeds expectations after using PREPRUFE[®] SCS Waterproofing



Client	California Polytechnic State University, San Luis Obispo, CA
Project Architect	Cannon Design, Los Angeles, CA
Applicator	ALCAL Specialty Contracting, Inc., Fremont, CA
General Contractor	Sundt Construction, Inc., San Luis Obispo office, CA
GCP Solution	PREPRUFE [®] SCS waterproofing

The Overview

The Project

At Cal Poly, recreation is seen as an important part of their students' education, and physical and intellectual well-being, while providing the opportunity for social interaction. But with Cal Poly's growing student population in San Luis Obispo, their existing recreation centre was no longer up to the task.

The University needed a cost-effective way to remodel and expand their recreation centre. The expanded 166,000 square foot (15,422 m²) facility would transform their recreation centre to create a more accommodating facility and help attract new students as well.

Designed to achieve green building Leadership in Energy and Environmental Design (LEED) certification, the new facility architecture included approximately 95,000 square feet (8825 m²) of existing area that was renovated or reconfigured and approximately 100,000 square feet (9290 m²) of new construction which included six racquetball courts, two basketball courts, a multipurpose court, pool, lobby and workout rooms.

The site for the new construction was tight. Part of the recreation centre building was adjacent to a higher-grade level and near roads that constrained the property line and would have made excavation beyond the perimeter of the building footprint a difficult task. Accordingly, the architecture design and construction team determined that using spray concrete foundation walls would provide a more cost-effective solution without requiring extensive excavation in that area of construction.

To waterproof the shotcrete walls would have posed some challenges, but the team brought on technical expertise from Blue360SM Design Advantage and specified a blindside waterproofing product specifically designed for shotcrete applications.

"We got all the support we needed from GCP and the waterproofing installation went very well. It was completed over a year ago and we haven't seen any problems."

Larry Taniguchi, Cannon Design

By using PREPRUFE[®]SCS blindside waterproofing in the architecture design, there was no need to modify a conventional waterproofing system to try to make it work for a shotcrete application. The innovative system is engineered for shotcrete foundation wall applications with a unique combination of waterproofing membranes and injection grout to prevent water leaks and minimise the potential for water damage.

The system's composite membrane, built to withstand the force of shotcrete, was attached to the soil retention system.

Then, the specially formulated hydrophilic grout was injected into the composite membrane to fill and seal the waterproofing system.

Throughout approximately 10,000 square feet (929 m²) of shotcrete foundation walls at the recreation centre, the system's components worked together to form a continuous and integral bond to the structure, to eliminate water migration between the membrane and shotcrete.

The Results

"GCP's reps came out and were very helpful with the installation of the product", said Larry Taniguchi, the architect on the project from Cannon Design. "We have a sub-floor drainage system in place so we see water there when it rains, and we haven't seen any evidence of water coming through the waterproofed walls".

When installed by trained and approved applicators, PREPRUFE[®]SCS is designed to prevent water leaks, minimise the potential for water damage and reduce the time and cost for any needed repairs on foundation walls caused by water damage.

By using the right products with quality construction practices, the education project's design and construction team helped ensure the project's success—as a valuable asset to Cal Poly's students now, and classes for years to come.

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GCP Applied Technologies Inc., 2325 Lakeview Parkway, Alpharetta, GA 30009, USA

GCP Australia Pty. Ltd., 14 Colebard Street West, Archerfield, Brisbane, Queensland 4108, Australia

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