



Delivering Concrete Solutions



Solair Wilshire, Los Angeles, CA

Solair Wilshire

Los Angeles, CA

Bovis Saves \$463,000 Using Integral Concrete Waterproofing

Structure: **• Multi-family residential
• Retail**

Application: **• Below-grade shotcrete walls
• Hydrostatic mat
• Elevator pits**

Developer: **Metropolitan Transit Authority , KOAR**

General Contractor: **Bovis Lend Lease**

Architect: **Archeon Group International**

Engineer: **Magnusson Klemencic & Associates**

Construction Manager: **Tishman Construction Management**

Concrete Contractor: **Largo Concrete, Inc.**

Ready Mix Provider: **Associated Concrete**

Introduction

Solair Wilshire is a multi-use development in downtown Los Angeles across from the historic Wiltern Theater consisting of a 22-story, 780,000 square foot residential tower, 50,000 square feet of retail/restaurant space, one level of underground parking for retail customers, and four levels of above-grade resident parking. The project includes 578 garage parking spaces and amenities such as a library, business center, and a 20,000 square foot garden area with a swimming pool, jacuzzi, and private cabanas.

Challenge

The foundation of Solair Wilshire is nine feet below the water table and the below-grade walls are shotcrete; traditionally a more difficult application to waterproof. Also, Solair Wilshire is in the heart of downtown Los Angeles at one of the busiest intersections in the city, making schedule delay and further traffic congestion major concerns.

Solution

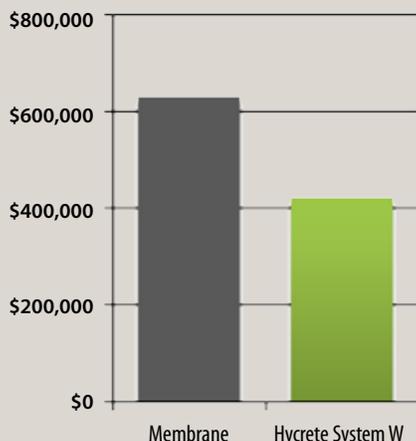
Hycrete System W was used to waterproof the shotcrete basement walls and slab of Solair Wilshire because it saved money up-front, shortened construction timelines, and simplified design.

The installed cost of Hycrete System W was approximately \$208,284 less than the alternative membrane system. In addition, Bovis Lend-Lease, the general contractor, estimated that a total of 17 days were saved on the critical path by using membrane-free construction resulting in savings of \$255,000. Thus, total savings are approximately \$463,284. Hycrete System W was also selected because of the ability to effectively and permanently waterproof tie-backs in the shotcrete walls using a simplified waterproofing approach.

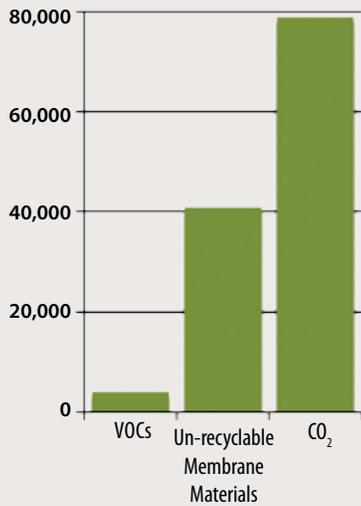
“The subterranean parking structure is nine feet below the water table and this demanded a robust waterproofing solution. The Hycrete System W basement is meeting all waterproofing expectations.”

Paul Giovannetti, Principal in Charge
Bovis Lend Lease, Inc.

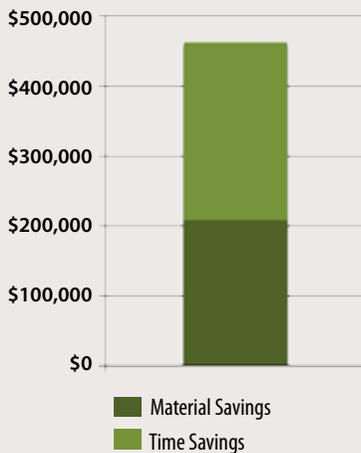
Comparative Material Cost



Environmental Savings
(Lbs Eliminated)



Total Savings



Results

The below-water-table foundation of Solair Wilshire is dry and the project is complete. Also, significant environmental savings were reaped by using Hycrete System W. The use of Hycrete prevented the future need to send approximately 41,000 pounds of membrane material to landfill; 4,434 pounds of VOCs (volatile organic compounds), 35,491 pounds of asphaltic content, and 79,701 pounds of CO₂ were avoided.

Material Savings

Element	Foundation Walls	Slab On Grade	Total
Area (ft ²)	71,847	22,977	94,824
Thickness (in.)	12	12	12 (average)
Traditional solution	Double Bentonite Panels	HDPE	---
Membrane cost - ft ²	\$7.00	\$5.50	Membrane \$629,303
Membrane cost - Total	\$502,929	\$126,374	
Hycrete cost - ft ²	\$4.44	\$4.44	Hycrete System W \$421,019
Hycrete cost - Total	\$319,001	\$102,018	

Material Savings = \$208,284

Time Savings

Element	Foundation Walls	Slab On Grade	Total
Construction cost per day	\$15,000	\$15,000	---
Membrane - Critical path	7 days	10 days	Membrane \$255,000
Membrane - Total cost	\$105,000	\$150,000	
Hycrete - Critical path	0 days	0 days	Hycrete System W \$0
Hycrete - Total cost	\$0	\$0	

Time Savings = \$255,000

“ Throughout the entire construction experience Hycrete personnel have exhibited a high degree of competency and professionalism and we plan to bid future work with Hycrete System W. ”

Paul Giovannetti, Principal in Charge
Bovis Lend Lease, Inc.



Simple waterproofing for shotcrete walls using Hycrete System W. No separate trade. No surface preparation. No tricky detailing around raking props or tie-backs. No problems caused by waterproofing being damaged by shotcrete pressure. No finger pointing.