

## Hydrophobic Concrete In So Cal

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### **Matt Construction opts for Hycrete single pour technology for underground parking structure in Tarzana, California.**

*By Loren Faulkner -- Building Design & Construction, June 16, 2008*

Although normally used in the rain-soaked soils of the Northwest construction market, Hydrophobic concrete is now making its presence known in the drier climate of Southern California. It is being looked at as a viable alternative to the normal membrane and concrete waterproofing systems. Apparent advantages seem to include reduced installation time and lowered costs.

Concrete, ready for shot-creting or cast-in-place, is treated with an admixture that repels moisture and helps to protect steel rebars from corrosion.

In an upscale area west of Los Angeles, Village Walk At Tarzana is under construction. It is a mixed-use project with these components: a 276,906 square-foot, two-level subterranean parking garage; a 115,246-square-foot, two-level above-grade retail center with Whole Foods as the anchor; and a 15-unit, three-level town home segment.

#### Hydrophobic Choice

"The owner chose to go ahead with changing the waterproofing system and having it incorporated into the concrete using Hycrete (a hydrophobic concrete admixture from Hycrete, Inc.), since it was a significant cost savings and a time-saving method," said Daniel Condreay, senior project manager for Matt Construction, the general contractor. According to Nelson Macalintal, director of construction services for New Jersey-based Hycrete, Inc., "Hydrophobic waterproofing has been used extensively in the Seattle area for years." But he said it is being used more in Southern California for a couple of reasons.

"The key here (at Tarzana) as far as for the owner, from our perspective, is the time savings." Macalintal figures Hycrete usage will shave off three months of labor by using waterproof concrete. He mentioned the difficulty of using a membrane to waterproof the footings; for example, rebar punctures the membrane.

"But with (Hycrete) we're providing both corrosion proofing and waterproofing in one application," he said. "Once you pour the concrete, the waterproofing is done at the same time."

#### Green Benefits

Macalintal said that what makes hydrophobic concrete "green" is the fact that if ever the parking structure is demolished in the future, the concrete could be easily crushed. But experience shows that if a membrane had been emplaced, the separation of the two products would be prohibitively costly. It would more than likely end up in a landfill, while the hydrophobic type would be recyclable.

#### Other Considerations

"With the hydrophobic system, if there is a leak, it is going to be localized," Macalintal said. "We can fix it at the point of leakage." Whereas with a membrane-backed concrete system, if a leak occurs, it may be difficult or impossible to find where the water invasion starts — similar to what happens at times when a roof leaks. Tracing down the source is not always possible.

"Because of this difference, we are able to offer a 'performance-based' warranty," he said. "Which means if there is a leak we will come and fix it for you."

Macalintal said the hydrophobic technique started in Australia some 40 years ago and was introduced in the Seattle area years later. Although it is common there, it is now becoming more of a trend elsewhere because of its two-in-one capability and its ability to be recycled.

#### Savings?

Macalintal said that they are able to provide placement on certain jobs, say at \$3.20 per square foot, on average, while a membrane-backed installation may cost well over \$5 per square foot. He pointed out that construction is speeded up because waterproof concrete is cast-in-place or shot-creted into place and both the waterproofing and concreting are finished together — a one-step process.

Site Preparation started November 2007 on the Tarzana project, and substantial completion is scheduled for July 30, 2009, according to Daniel Condreay.