

Rebuilding America

## Hycrete: Keeping The Water Out

Kerry A. Dolan, 03.15.10, 12:00 AM ET

When he travels, David Rosenberg likes to take along chunks of concrete and an eyedropper full of water. He demonstrates to anyone who's interested how water from the dropper seeps into one piece of concrete but rolls off the surface of the other. The difference, he says, is the product made by Hycrete, the Carlstadt, N.J. company he founded.

Hycrete sells an additive that makes concrete both waterproof and more environmentally friendly. The product eliminates the need for a petroleum-based membrane that encases concrete placed below the ground. The construction industry is typically averse to trying new products, but Hycrete has some nice selling points: reduced material costs and construction time, a patina of greenness and a prediction that it will keep rebar from rusting. The additive weakens concrete slightly, but the product still meets specifications.



David Rosenberg's big idea won't hold water.

Since Rosenberg started the company in 2005, Hycrete has made its way into 200 buildings, mostly in the U.S., including the new Nintendo headquarters, a building at the Amazon.com campus in Seattle and the Bill & Melinda Gates Foundation offices. "We remove the biggest pain of construction," says Rosenberg, 37.

Hycrete's additive is based on a water-soluble molecule that transforms when mixed into concrete, becoming a water-repellent polymer. One end of the molecule reacts with calcium in the mix, forming hydrocarbon chains that fill capillaries; the other bonds to steel, protecting rebar. It sells for between \$50 and \$75 per gallon, enough for a cubic yard of concrete; that works out to a cost of \$4 per square foot of foundation wall area. The sheathing membrane that it obviates sells for roughly \$6 a square foot, including installation. Rudy Hasl, dean of the Thomas Jefferson School of Law in San Diego, chose to use the Hycrete additive in a new classroom building not only for the \$250,000 cost savings but also because it helped his new building get a little bit greener.

Rosenberg's grandfather Michael Rhodes was a chemist who, in the 1950s, led the invention of the water-repelling molecule at the heart of Hycrete's additive. When Rhodes died in 2002, Rosenberg's family asked him to take over managing the concrete additive business. In 2005 he decided to spin out the additive business as a separate entity, aided by a \$500,000 grant from New Jersey's economic development arm. Since then he has raised \$24 million from venture capital firms and moved into the chairman's role while bringing in Richard Guinn, a building industry veteran, as chief executive.

Hycrete has 40 employees and revenues likely in the single-digit millions (Rosenberg won't divulge details) but bats bigger than its size. It outsources manufacturing and uses temp workers to assist on job

site projects like fixing cracks. Its pipeline of pending building projects has doubled in the past year to 200.

"The concept of waterproofing has been around for years," says Paulo Monteiro, a professor of structural engineering at UC, Berkeley. "The challenge has been to make it economic." He says Hycrete may have a tougher time convincing government authorities to use its additive in projects such as bridges and tunnels. Still, last year Hycrete got a foot in the door with the Army Corps of Engineers, thanks to a \$2 million earmark it obtained in a defense bill. Most of that money goes to pay the Army to investigate and test the Hycrete additive.