

## Green-Tinted Building Products

In a world where construction commodities prices are followed like daily stock quotes, developing a new building material that's cheap and desirable can be a ticket to success.

Right now, the market is focused on green, thanks to the popularity of LEED certification and the potential for cost savings via recycling. These two building products are taking green building to the next level.

### Marrying Old and New

Rammed earth has been used as a building material in some developing parts of the world since ancient times and is cited as a sustainable and low-cost method for building roads, buildings, and other structures.

The method is susceptible to water erosion if not properly treated or maintained, though, which is where Aggrebind comes in.

The product, developed and perfected over the past two decades by the company Safety Tek, uses a styrene acrylic water-based polymer to bind rammed earth and is guaranteed to maintain integrity for 10 years, says Aggrebind's Robert Friedman.

With the bonding powers of Aggrebind, builders can use rammed earth or rammed earth block to build structures or roads more cheaply than using block, concrete, or asphalt, Friedman says.

For roads, Aggrebind combined with local materials can make a hard enough surface to use as foundation without trucking in aggregate that might not be available nearby, Friedman says. It also means engineers can build roads in places where it's too difficult to transport aggregate, like mountain passes.

"Geographically, you can't move hot asphalt up the side of a mountain," he says. "What Aggrebind does is liberates you from the logistics of transporting specified materials to make a road. You use what's there."

It takes about three to four liters of Aggrebind to secure a cubic meter of earth, Friedman says.



A TRUCK SPRAYS AGGREBIND ON A ROAD IN A GAME PRESERVE IN SOUTH AFRICA. AGGREBIND STRENGTHENS AND HOLDS TOGETHER RAMMED EARTH STRUCTURES, ALLOWING FOR CHEAPER CONSTRUCTION WITHOUT AGGREGATE.

It could also be an option for projects that need sturdy roads but are more temporary in nature. The British military used Aggrebind (then known as SoilBIND) to build temporary air strips in Afghanistan for Hercules C-130 cargo planes, Friedman says. Such temporary operations, like oil well drilling, could be well suited for Aggrebind roads, though Aggrebind can be used to make permanent roads, Friedman says.

### Recycling = Energy Savings

Lou Grasso Jr. says it takes only 12% of the energy needed for a conventional clay brick to make his company's Pozzotive and Pozzotive Plus bricks that feature postconsumer recycled glass as a supplementary cementitious material.

Two birds with one stone? It's part of Grasso's effort to bring concrete and cement professionals toward a more sustainable and good-guy image, says the lead inventor of the product and managing partner at Kingston Block & Masonry Supply Co., which sells the material.

"In the concrete industry, you're kind of looked at as wearing a black hat," he says,

meaning you're one of the bad guys for the environment. "I want to wear a white hat for a change."

Saving heat—Pozzotive is not kiln-dried during production like most cement—and using recyclable glass makes Pozzotive brick greener, Grasso says.

By using recycled glass, Kingston Block, headquartered in New Rochelle, New York, can help satisfy some LEED requirements and use glass that might go into landfills instead of being recycled, Grasso says. Grasso also uses recycled construction aggregate for the rest of the blocks, reducing the impact construction and demolition have on landfill space and virgin aggregate mining, he says.

Grasso also avoids the questions cropping up around fly ash as a cementitious material. The ground glass he uses in Pozzotive contains no heavy metals and will not be affected by possible regulation of fly ash being considered by the Environmental Protection Agency.

"What I do is promote the use of cement in an environmentally responsible way," Grasso says.