

# The Concrete Producer

April • May 2011

hanley wood

## Finding the Secret Ingredient

Tough, demanding jobs require innovative mix designs

**PAGE 22**

Ryan Costanti, owner of Smokey Point Aleutian Concrete, travels to World of Concrete to learn more about admixtures.

2011 World of Concrete Recap  
**PAGES 28-42**

Enter the Greensite Contest  
**PAGE 50**

# The Concrete Producer

hanley wood



## 22 Designed for Success

Chemical admixtures are helping producers meet today's toughest construction challenges and shaping the future.



## 43 Get a Load of This

Agencies may target payload, not just miles per gallon.

## 46 Casting Trends: Precast Refuge

## World of Concrete

### 28 Seizing the Opportunity

2011 World of Concrete attracts crowds worldwide; events and MIP coverage.

### 40 Fleet Factors Showstoppers

### 42 Women in Concrete The Big Fix

Cover: Bryan Haraway/Getty Images

Online

Visit [www.theconcreteproducer.com](http://www.theconcreteproducer.com) for extra website features, including:

**World of Concrete Bonus Coverage:** If you didn't make it to the big show in Las Vegas this year, or if you went and didn't catch all of the action, visit the World of Concrete page at our website for exclusive video coverage of events and more.

**Green Trucks on the Web:** After reading the truck feature story on page 43, visit our website to catch up on all of columnist Paul Abelson's Fleet Factors columns. No one has his pulse on the trucking industry like Abelson.

**Quick Poll:** Would you like to know what your fellow producers think about pressing issues in the industry? Visit our monthly Quick Poll question to compare your answer to fellow producers.

THE CONCRETE PRODUCER (ISSN 1055-0356, USPS 012-316) is published 7 times per year—Jan-Feb, March, April-May, June-July, August, Sept-Oct, Nov-Dec and is copyrighted 2011 by Hanley Wood LLC, 8725 W. Higgins Road, Ste 600, Chicago, IL 60631. Periodicals postage paid at Washington DC and additional points of entry. The Concrete Producer is mailed free of charge to qualified subscribers within the United States. All other U.S. subscriptions: one year (7 issues), \$27; two years (14 issues), \$43. Canada/Mexico: one year, \$33; two years, \$58. Other foreign (air mail delivery): one year, \$93; two years, \$162. Reprinting of articles is prohibited without permission of Hanley Wood LLC. Write Managing Editor to request permission. Back issues of The Concrete Producer are generally available from Hanley Wood LLC for \$10.

Postmaster: Send address changes to THE CONCRETE PRODUCER, P.O. Box 3494, Northbrook, IL 60065-3494

Canada Post Registration #40612608/G.S.T. number: R-120931738. Canadian return address: Pitney Bowes Inc., PO Box 25542, London, ON N6C 6B2.

## Lower costs and improve your Formulations with



a high-purity, self-dispersing magnesium alumino silicate that is so unique...it's patented.

### In Self-Leveling Concrete Overlayments/Underlays:

- **Acti-Ge<sup>®</sup> 208** improves the stability of highly fluidized self-leveling concrete and floor screeds.
- **Acti-Ge<sup>®</sup> 208** prevents the segregation of the coarse aggregates in these mixtures.
- **Acti-Ge<sup>®</sup> 208** gives mixtures the desired properties needed for self-leveling.
- Self-leveling formulations with **Acti-Ge<sup>®</sup> 208** are robust and easy to formulate.
- **Acti-Ge<sup>®</sup> 208** can be used in both ready mixed and dry batch formulations.
- **Acti-Ge<sup>®</sup> 208** eliminates other mineral thickeners and reduces cellulose ethers.

### In Plasters, Mortars and Filing/Leveling Compounds:

- **Acti-Ge<sup>®</sup> 208** is used to increase the thickness of the Plaster being applied.
- **Acti-Ge<sup>®</sup> 208** prevents sagging, even when plaster is applied in a thicker layer.
- **Acti-Ge<sup>®</sup> 208** helps correct for Rheology loss if too much water is applied thereby making the mix less critical to the end user.
- **Acti-Ge<sup>®</sup> 208** Reduces the amount of Cellulose Ethers used.
- **Acti-Ge<sup>®</sup> 208** is a non-retarding thickener for cement and gypsum based plasters.

### In Self-Consolidating Concrete:

- **Acti-Ge<sup>®</sup> 208** is highly suitable for preventing segregation in SCC, even when small increases in water content are necessary.
- **Acti-Ge<sup>®</sup> 208** works better than gums, is easier to incorporate & is more stable.
- **Acti-Ge<sup>®</sup> 208** does not retard SCC formulations.
- **Acti-Ge<sup>®</sup> 208** can be pre-mixed with PCE and other Superplasticizers for ease of addition via standard dosing equipment.
- **Acti-Ge<sup>®</sup> 208** enables the use of coarser aggregate without segregation.

### Acti-Ge<sup>®</sup> 208 Advantages:

- Lowers Formulation Costs
- Prevents Bleeding
- Higher Reinforcement
- No Segregation
- Higher Compression Strengths
- Higher Cohesive Strength
- Better initial flow
- Allows for more efficient use & faster batch addition times.
- Increases adhesion strength!
- Excellent Anti-Settling, Anti-Sag properties.
- Low yield point of gel structures allows for quick, easy flow under shear conditions.
- Ultra fine particle size gives excellent performance in spray applications.

For more information and a FREE sample, visit our web site at [www.activeminerals.com](http://www.activeminerals.com) or call 410-825-2920.

  
**ActiveMinerals**  
INTERNATIONAL, LLC

6 NORTH PARK DR, SUITE 105, HUNT VALLEY, MD 21030

Free Product Info, visit: [go.hw.net/freeinfo](http://go.hw.net/freeinfo)

### COLUMNIST

20 Villere: Concrete Returns  
The Housing Recovery: Is this the Year?



### DEPARTMENTS

13 Editorial  
Four Years and Counting

14 Problem Clinic  
Lightweight Block as an Alternative



18 Greensite  
Vehicles for Change

48 Product Pulse  
Improving Performance: Water-reducing Admixtures

50 Call for Entries: 2011 Greensite Awards

53 Concrete Trader: Classifieds

57 Advertiser Index

58 What's New  
Creating a Paperless Project

## Lightweight Block as an Alternative

{ QUESTION } We are working on a project where the owner is trying to earn LEED credits. So we are trying to convince the structural engineer to use lightweight block. How can we get him to use lightweight block as an alternative?

{ ANSWER } With the possible exception of very high compressive strength requirements, lightweight concrete masonry units (CMUs) can be specified any time. A common misconception is that lightweight units are not structural. Lightweight CMUs meeting the requirements of ASTM C90 have all the structural properties of normal weight load-bearing units.

Higher compressive strengths that allow higher design strength of masonry ( $f_m$ ) are common with both lightweight and normal weight units. Lightweight units offer improved fire resistance and thermal performance compared to normal weight units of the same configuration, so they often are specified for fire-rated walls. In addition, lightweight units can lower wall costs by increasing mason productivity and reducing labor costs, which make up the largest portion of the installed wall cost.

{ QUESTION } I also have reviewed the National Concrete Masonry Association website. It appears that lightweight units perform better than normal weight units from a fire and thermal standpoint, as well as increased productivity. However, it seems from an acoustic standpoint, the normal weight units perform better than the lightweight units. Is this true?

{ ANSWER } There are two different measures of acoustic properties of walls—

Expanded clay lightweight aggregate was used to manufacture lightweight concrete masonry units for the new Bush Stadium, which opened in 2006 in St. Louis.



STC and NRC. STC (Sound Transmission Class) measures how well a wall prevents sound from passing through the wall itself. In general, the heavier the wall, the higher the STC will be. So, normal weight CMU walls have a

somewhat higher STC than lightweight CMU walls. However, both normal weight and lightweight CMU walls have STCs of 45 or higher (minimum 8-inch wall), far superior to light-frame construction.

NRC (Noise Reduction Coefficient) measures how well a wall absorbs sound, reducing the reflection of noise within a room. Generally, lightweight CMU walls have twice the NRC of normal weight CMU walls. This principle applies to both unpainted and painted walls.



## PROTECTING OUR MOST PRECIOUS RESOURCES.



### ENVIRONMENTAL RESPONSIBILITY: IT'S SECOND NATURE.

- 100% Recycle of Aggregates and Residual Water
- Residual Water Density Monitoring and Interfacing
- Minimum Fresh Water Usage
- Ability to Handle Fiber
- Above Ground Construction
- High Quality Components
- Simplicity in Design and Operation

  
READY-MIX RECLAMATION SYSTEMS

For more information  
Visit [www.enviro-port.com](http://www.enviro-port.com) or Call 1-800-356-8106

LEADING THE INDUSTRY IN ENVIRONMENTAL PERFORMANCE

Free Product Info, visit: [go.hw.net/freeinfo](http://go.hw.net/freeinfo)

{ QUESTION } How does lightweight concrete contribute to sustainability?

{ ANSWER } Lightweight concrete (LWC) solutions, including structural lightweight concrete, concrete masonry, and prestressed/precast concrete, improve energy performance, reduce the volume of materials resulting from lower dead loads, reduce transportation requirements (fewer truck loads mean less fuel is used and less pollution is generated by delivery), improve service life, and lower life-cycle costs.

Lightweight fine aggregate also can contribute to recycled content, but sustainability goes far beyond the use of recycled materials.

{ QUESTION } Why or how does lightweight concrete lower a project's costs?

{ ANSWER } Because LWC has greater fire resistance than normal weight concrete, required fire ratings of floor slabs can be achieved with thinner slabs. This reduction in thickness reduces the dead load by 20% to 25%. In addition to the 20% density reduction, the thinner, lighter slabs can be supported by smaller beams, columns, and foundations. This further reduces the volume of materials.

The reduced floor-to-floor height also reduces the quantities of utilities and exterior cladding. In the case of prestressed/precast concrete structures, the number of truckloads required to deliver the structural members to the jobsite can substantially reduce costs. For concrete masonry, labor savings can substantially reduce the installed wall cost.

*The answers were provided by Jeff Speck, vice president of sales and marketing for Big River Industries, a producer of expanded clay lightweight aggregate. Visit [www.bigriverind.com](http://www.bigriverind.com).*