



## SPEC MIX® supports future masons at National Masonry Contest

On Thursday, June 24, 47 high school and post-secondary contestants from 34 states, each of them winners of their own state or regional event, gathered in Bartle Hall in Kansas City, Mo., to compete in the National Masonry Contest, held in conjunction with the SkillsUSA conference. Each contestant competed a written test and built brick and block composite projects judged in part by trade professionals from Bricklayers Local No. 15.

The winner of the post-secondary competition was Cody Alward, 19, from Mount Pleasant High School in Mount Pleasant, NC. In 2003, Alward won the secondary division of the National Masonry Contest.

This year's high school winner was Terry Miller, 17, from Earnest Pruett Center of Technology in Hollywood, Ala. This was Miller's third national contest. As a sophomore, he finished seventh. Last year he earned a second-place medal. This year, he came back determined to take the grand prize, and take it he did!

Alward, Miller and the other contestants were supported in their efforts by donations from SPEC MIX®, Midwest Block and Brick (SPEC MIX licensee) and Kansas City Brick. SPEC MIX Mudslingers from around the country were "slingin' mud" throughout the 6-hour day in support of the aspiring masons. SPEC MIX also supports the competition with a "Commitment to Excellence" scholarship, which awards \$1,500 to the school of each first-place winner in the secondary and post-secondary divisions.

Sustaining members and sponsors of the contest were Bon Tool Co., the Brick Industry Association, Hanley-Wood, Marshalltown Trowel Co., the National Concrete Masonry Association, the Portland Cement Association and SPEC MIX, and each supported the event generously with prizes and other contributions.

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Forty-seven contestants from 34 states participated in this year's National Masonry Contest at the SkillsUSA National Leadership Conference in Kansas City, Mo.



As winners of their divisions, Cody Alward (left), post-secondary, and Terry Miller (right), secondary, each take a \$1,500 SPEC MIX® Commitment to Excellence scholarship to their respective schools for furthering masonry training.

# National Masonry Contest (continued from Page 1)

Contributing members of the brick industry also joined together to participate in the 40th annual SkillsUSA National Leadership Conference. The brick industry supported the contest with contributions and representation from across the United States. Committee Chair Bryan Light of the Southern Brick Institute, reported greater industry support for this annual trade competition than ever before.

This year, Light gave special recognition to his Education Team, a group of instructors who assist in the set-up, the conduct of the contest and the judging. "Billy Madkins, Charles McDaniel, Edward Mims, Todd Larson and Jack Wentz literally spend the week here with me," Light said. "I would be hard pressed without their help."

Other highlights of the three-day conclave included a luncheon in honor of the contestants and their instructors. At the luncheon, Bill Kjorlien of the Southern Brick Institute and former chair of the Technical Committee pointed out the value of working in a trade "where you can take your trade anywhere and always have the satisfaction of having a visible representation of your work ... every day."

Bob Melton, executive director of the Masonry Institute of Tennessee, spoke to the young masons, congratulating them on their accomplishment of reaching the national contest and encouraging them to "do your best."

More than 4,500 outstanding vocational students, all state champions, competed in more than 90 different

SkillsUSA trade, technical and leadership competitions. The contestants effectively demonstrated their expertise in the occupational skills required for such trades as electronics, technical drafting, precision machining and brick masonry.

The winners were announced at an awards ceremony on Friday, June 25 in Kemper Arena. The winners of the masonry competition were as follows:

## Post-Secondary Competition

- First Place: Cody Alward, 19, Mount Pleasant High School, Mount Pleasant, NC  
Second Place: Paul Shuey, 19, The Williamson Free School of Mechanical Trades, Media, Penn.  
Third Place: J. Cruz Cervantes, 32, PTEC St. Petersburg Campus, Saint Petersburg, Fla.

## High School (Secondary) Competition

- First Place: Terry Miller, 17, Earnest Pruett Center of Technology, Hollywood, Ala.  
Second Place: Dallas Caudle, 17, Central Cabarrus High School, Concord, NC  
Third Place: Alvaro Gutierrez, 18, Lexington Technology Center, Lexington, SC



The winners of the 2004 National Masonry Contest took the stage at Kemper Arena in Kansas City, Mo. They are (left to right) J. Cruz Cervantes, Alvaro Gutierrez, Cody Alward, Terry Miller, Dallas Caudle and Paul Shuey. Flanking the winners are (left) Harry Junk, market manager, National Concrete Masonry Association, and Technical Committee member; and Bryan Light, director, Southern Brick Institute, and chair of the Technical Committee.

# Masonry instructors hold key to industry

Why does SPEC MIX® place so much emphasis on the apprentice competitions, like the National Masonry Contest in Kansas City, Mo.? And why should you care?

In a few years, these young men will make up the crews building our homes, the places we work in and the schools where we send our children. And if you are a mason, he will work with you side by side and continue the trade when you retire.

According to the U.S. Bureau of Labor Statistics, in the years between 2000-2010, 48,000 new jobs in masonry will be created. Also in that time period, 91,000 jobs will need to be filled as a result of those leaving the trade, e.g., retirements and career changes.

Masonry instructors have a vital role in sustaining the masonry industry. They essentially hold the key to its future.

It's the masonry instructors who mentor and direct apprentices along the path of becoming skilled masons. It's their passion for the trade and dedication to their apprentices that keep the trade going. Unfortunately, because of their place on the sidelines, so to speak, their contributions often go unnoticed.

So, we at SPEC MIX offer our appreciation to the instructors who brought their students to the National Masonry Contest, as well as to all the instructors who work every day to ultimately further the quality of craftsmanship in the industry. Thank you for your contributions to the industry.



**The future of the masonry industry at work: Paul Shuey, 19, of Hegins, Penn., checks the measurements of his brick and block composite project. Shuey took second-place honors in the post-secondary division.**

# Regional SPEC MIX Bricklayer 500® events

Attention masons! Looking for a challenge? Are you brave enough to put your bricklaying skills to the test?

Four regional events are coming up in Northern Illinois, Wisconsin, Michigan and Northeastern Ohio. If you are a mason in one of these areas who is interested in entering the event, call the SPEC MIX® licensee listed below. Winners of the regional events automatically get a spot at the national competition held at the World of Concrete/World of Masonry in Las Vegas, Nev.,



Spectators are welcome as well — we need a crowd to cheer these challengers home!

Expect more locations to be announced soon, but in the meantime, here is the current schedule:

## **Northern Illinois (Elburn): August 21**

For more information, call Packaged Concrete Inc. at (800) 466-4303

## **Wisconsin (Sussex): September 18**

For more information, call QUIKRETE Wisconsin at (800) 442-7258

## **Michigan (Detroit): October 2**

For more information, call Lana Pachota at Gibraltar National at (313) 491-5610, ext. 229

## **Northeastern Ohio (Cleveland): November 6**

For more information, call QUIKRETE Cleveland at (800) 776-6091



**The 2003 Wisconsin SPEC MIX Bricklayer 500® event**

## Hydro-Mobile launches new trailer

Hydro-Mobile, the leading North American manufacturer of mast climbing work platforms, announces the launch of their new trailer for the 14-foot M2 mast climbing work platform. This new accessory is a cutting-edge product for the masonry industry. It's a perfect complement to the M2 platform, saving you time and money and allowing you to move your power unit from jobsite to jobsite with a pick-up truck.



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With the Hydro-Mobile trailer, the 14-foot M2 platform can easily be hauled on the back of a truck for a quick set up and easy relocation. In addition, the trailer can remain attached to the unit during the job operation. Hydro-Mobile's new trailer system allows for more flexibility and mobility on jobsites. For more information about the trailing system, check with a dealer nearest you or call Hydro-Mobile toll free at (888) 484-9376.

Hydro-Mobile is a privately owned corporation, principally involved in the design, manufacturing and distribution of mast climbing work platforms for the construction industry. Hydro-Mobile platforms are distributed throughout North America and Europe through a wide network of distributors, resulting in more than 3,500 platforms in the field.

## New ASTM specifications for masonry

BY STAN HARWELL, SPEC MIX® EASTERN REGIONAL MANAGER

During the second week of June, the ASTM committees met in Kansas City, Mo., for its bi-annual meetings. The C 12 Committee was particularly hard at work, being on the verge of passing two proposals that will have significant impact on the masonry industry.

The C 12 Committee writes and maintains all standards regarding mortar or grout used in masonry construction. This is a consensus group, meaning all develop standards are peer reviewed and balloted by ASTM members, who include contractors, architects, engineers, academics, cement producers, lime manufacturers, testing labs, masonry consultants, mortar manufacturers, etc.

One item the ASTM C 12 Committee currently is proposing and getting ready to reballot is a preblended mortar specification. This specification would allow an architect to specify factory preblended mortar or grout exactly as it needs to be manufactured for a specific job, including how the mortar is to be manufactured, what materials it should be made from (e.g., portland cement, masonry cement, mortar cement, lime and any and all admixtures to be used), and how it should be delivered to the jobsite, plus the architect will be able to specify physical properties, such as bond! The specification also addresses the manner in which field testing is conducted. A dry "grab sample" from the silo, bag or tanker will be taken to the testing lab where it will be mixed to the appropriate flow for testing.

The committee also is examining the various forms of field tests performed to measure batch-to-batch consistency as outlined in C 780. Due to some misunderstanding of compressive strength testing of jobsite prepared mortars, the possible removal of compressive strength testing as an approved method from C 780 is being investigated. Casting of cubes for measuring the batch-to-batch consistency of mortar may become a thing of the past. More reliable methods would be used.

ASTM needs more involvement from contractors and end users of masonry, as well as from designers and architects. For more information, contact the ASTM at (610) 832-9535 or [service@astm.org](mailto:service@astm.org), or visit the web site at [www.astm.org](http://www.astm.org).

# Switching Raw Materials - Part 2: More than you ever wanted to know about sand

BY MARK R. LUKKARILA, SPEC MIX® TECHNICAL SERVICES MANAGER

Like cements, properties of sands can vary significantly from source to source. This is due to the complexities of sedimentation history of the sand source. To understand how these differences occur, we'll look at how sand is formed.

Every sand grain begins its journey as a constituent part of a rock outcrop. Through the various erosional processes, the rock breaks down into progressively smaller rock fragments (i.e., outcrop, boulder, cobble, pebble, sand, silt and clay-size material) as it is transported further from its source. The mode and distance of transportation will determine the distribution of particles sizes, particle shape and composition. One sand deposit can represent multiple erosion/deposition cycles.

Sands in close proximity to one another, as well as within a single sand source, can represent completely different depositional environments. Photo No. 1 illustrates at least two different depositional environments. The stream on the left, which has a higher flow, empties into a river with a slower flow. In geologic terms, the stream on the left would have a higher competency and capacity than the slower stream that it converges with on the right. Competency is defined as the largest particle the stream can move. Capacity is defined as the total sediment load a stream can transport.



Photo by James Rose, Montana Bureau of Mines and Geology

**Photo No. 1:** Photograph of two mountain streams of different velocities converging.

The velocity of the water determines stream competency and capacity. Sediments deposited by the lower capac-

ity stream would be finer and contain more clay-sized materials. To further complicate things stream flow can change abruptly due to variety of reasons. Photo No. 2 is a vertical cross-section of a sand and gravel pit, which was deposited by glacial outwash (melt-water) more than 10 000 years ago. It is not hard to imagine that the sand and gravel deposit of Photo No. 1 would look like the stratigraphic cross-section in Photo No. 2.

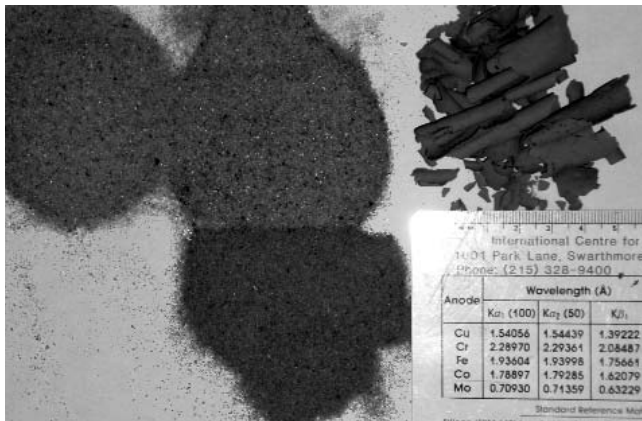


**Photo No. 2:** Photograph of a glacial outwash deposit. Note the interlayered sand and gravel deposits.

So, how does all this affect mortar? Fine aggregate properties, such as, particle sized distribution, shape and mineralogy can impact the performance of the mortar in the plastic and/or hardened state. Properties that can be affected include, but are not limited to, workability, water retention, strength, bond and yield. For example, switching to a sand source that contains an excessive quantity of fines (i.e., clays) can cause an increase in water demand and/or affect color. Photo No. 3 illustrates the cause of discoloration in a mortar after sand sources were switched. The sand on the far left is material from the old sand source. The two middle sands are the same material before (bottom) and after (top) washing. The material on the right is clay that was removed from the dark sand from the new sand source. The sample contained over 2.5 percent clay. It is easy to see how the excessive clay content affected the mortar color.

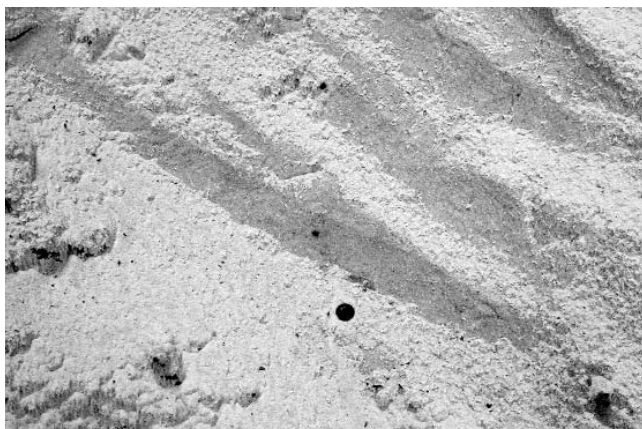
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# Switching Raw Materials: Part 2 (continued from Page 5)



**Photo No. 3:** Photograph of two sand sources. The sand on the left side of the photograph is the old source. The darker sand in the bottom center is the new fine aggregate source. The sand directly above the darker sand is after washing. The material on the right of the photograph is the clay that was removed from the new source.

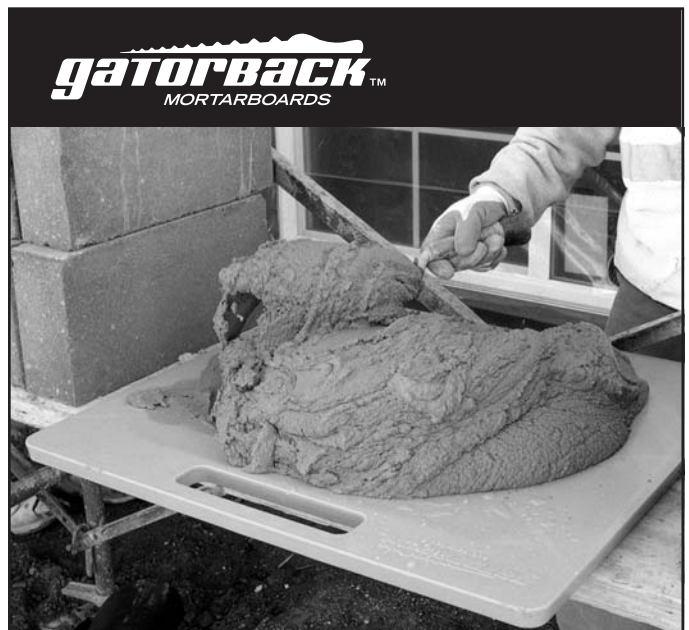
Even in relatively homogeneous deposits, like those used for colored mortars (especially white), can have localized variations in color. The sand in Photo No. 4 is a material that is mined specifically for fine aggregate because it is a relatively pure quartz sand. The sand is typically clear and is an excellent aggregate for colored mortar mixtures. However, as you can see the deposit does contain some seams of iron-stained quartz. This sand was used in a white mortar mix and subsequently the color of the white mortar had a yellow hue once the aggregate was exposed after cleaning.



**Photo No. 4:** Photograph of a poorly cemented sandstone deposit that is mined as a fine aggregate source. Note the large, darker streaks of sand.

So now you see how variations within adjacent sand deposits and even within the same deposit can influence properties of masonry products. Controlling your sand sources may not always be possible, but when compounded with possible contamination from the ground (e.g., soluble salts that may lead to efflorescence) when field mixing, producing consistent mortar quality is that much more difficult.

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## MASONRY ESTIMATORS

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July 29-August 1  
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Resort & Spa, Florida

### NCMA Midyear Meeting

August 4-8  
Cambridge, MD

### Illinois Regional SPEC MIX Bricklayer 500® Competition

August 21  
Elburn, IL  
(800) 466-4303



### Wisconsin Regional SPEC MIX Bricklayer 500® Competition

September 18  
Sussex, WI  
(800) 657-0789



### ICC Codes Forum

August 26-29  
Salt Lake City, UT

### IPCMA Annual Fall Meeting

September 11-13  
Salt Lake City, UT

### MINExpo 2004

September 27-30  
Las Vegas, NV



### Michigan Regional SPEC MIX Bricklayer 500® Competition

October 2  
Detroit, MI  
(313) 491-5619, ext. 229



### Second International Conference on Engineering Developments in Shotcrete

October 4-6  
Cairns, North Queensland, Australia

### ASA Committee Meetings

October 23-24  
San Francisco, CA

### ACI 2004 Fall Convention

October 24-28  
San Francisco, CA

### Northeastern Ohio Regional SPEC MIX Bricklayer 500® Competition

November 6  
Cleveland, OH  
(800) 776-6091



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