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AMERICAN SOCIETY OF CONCRETE CONTRACTORS

# The VOICE of the Concrete Contractor

DECEMBER 2017

ASCC



CPC



DCC



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## Message from the Board

### ASCC – Making Construction Safer

Bill Bramschreiber, Vice President

I first heard about ASCC in 2008, when I was asked by my company to attend the ASCC Annual Conference in San Antonio, TX, to support Brad Inman, one of our retired executives who was being honored there. While at the conference, **I happened upon a well-attended roundtable on safety led by Chris Plue of Webcor, and was I struck by how competitors would so openly share their best ideas and solutions on safety. I was hooked, and have been a dedicated participant of ASCC events ever since.**

Safety is the one endeavor where all concrete contractors must come together to do the right thing and to improve the image of our industry. Construction continues to be one of the most hazardous industries. Currently, on average in the United States, 18 people still die every week in construction accidents; obviously way too many. You can earn a good living working in construction, yet there is a growing shortage of construction workers. Certainly our safety reputation and record are one of the primary reasons.

The Safety and Risk Management Council (SRMC) of ASCC is dedicated to making our members the safest contractors in the industry. Council members meet and share their expertise and experience on all aspects of concrete construction safety. Through the sharing of Mike Schneider of Baker Concrete and other research, our company was inspired to stop taking an enforcement, “cops and robbers” approach. Instead, we have begun to transition to more of a partnership approach between supervisors and workers, where everyone works together to continually focus the behavior of individuals and teams on safety. Our initial results have been encouraging, and this may not have happened without ASCC.

The SRMC has produced numerous resources and publications on safety, including a comprehensive Safety Manual, a variety of job hazard analyses, an employee orientation video, and safety bulletins on various topics. Many of these include templates and examples, which can be easily customized and used by a company that is early on in developing their safety processes.

Next year ASCC will add a full time staff member devoted solely to safety, to further enhance our ability to help make concrete construction safer. Come join us and get involved with safety at ASCC, and everyone please have a safe and wonderful holiday season.

## Executive Director's Message

### DCC Turns 20!

Bev Garnant

2018 (right around the proverbial corner) marks the 20th Anniversary of the Decorative Concrete Council, the first specialty council of ASCC. In 1998 Frank Piccolo, owner of a Louisiana stencil manufacturer, Artercrete, was hoping to start an organization focused on the new, hot product decorative concrete. Actually decorative concrete as we think of it had been around since at least the '50s when Brad Bowman began stamping the stuff. But it wasn't until a couple of decades later that it really started to gain ground.

## Industry Calendar

### World of Concrete

Las Vegas Convention Ctr., Las Vegas, NV  
January 23 – 26, 2018

### Concrete Executive Leadership Forum (CELF)

Montage Deer Valley, Park City, UT  
July 19 – 22, 2018

### Annual Conference

Sheraton Charlotte/Le Meridien Charlotte, Charlotte, NC  
September 20 – 23, 2018

WORLD OF CONCRETE®  
registration is open



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## Welcome New Members

Ambient Flooring, Inc., Ridgefield, NJ

Carter Concrete Structures, Stone Mountain, GA

Concrete Arts, Inc., Hudson, WI

Concrete Services of Northwest Arkansas, Inc.,  
Springdale, AR

Desco Coatings of Alberta Ltd.,  
Edmonton, Alberta, CANADA

Exposed Floor Design Group, Dallas, TX

Jonesplan Construction, Tulsa, OK

Maine Concrete Repair, Orrington, ME

Pace Pacific Corp., Phoenix, AZ

TC Floors West, Winnipeg, Manitoba, CANADA

Transhield, Elkhart, IN

Frank saw what he labeled fly-by nighters getting into the business and hurting the industry. He believed an organization, with a mission and guiding principles, would help the professionals better define and manage this burgeoning industry.

Fortunately for Frank at the door to ASCC he ran into two of the best, Paul Albanelli and Denny Ahal. The two of them took Frank under their wing and convinced him that rather than start a new, separate group, the thing to do was to become a part of ASCC. Frank wanted more however, than to be another committee and thus the ASCC Council was born, complete with its first board: Frank as council director, Paul, Denny, Scott Arnold of Master Builders and Howard Jancy, L.M. Scofield. Peter Steiner, ACI, was the executive director at the time and Mary Hurd wrote the first DCC newsletter.

We'll talk more about the history of the DCC and you'll see lots of activities and acknowledgement throughout the year. To kick off the celebration, however, please join us at our annual WOC Bash, Monday evening, Jan. 22 at the Westgate as we celebrate the anniversary: "Fifty Shades of "Everything But" Grey. *Dress appropriately.*

## Avoiding the Hotline

Todd Scharich, Decorative Concrete Specialist

As Bruce Suprenant and I take calls to the Concrete Construction and Decorative Concrete Hotlines respectively, our members are usually looking for both a technical and a purposeful answer. In saying that I mean that often the contractors are hoping our answers will support their opinions, and likely help save them significant sums of money in dispute resolution. It would be easy for Bruce or myself to always take the side of our members and their issues, but what amazes me the most is how accepting members are to hear the bad news when we do not side with them.

I have recently dealt with two overlayment issues where contractors have had to incur significant cost to correct missteps in their own processes. They acknowledge that they did not take the most complete or best route to make everything work but also held out hope that maybe the hotline could offer an opinion that would keep them from having to outlay additional monies for labor, material, or both. It pains me when I have to recommend rip-outs, or removal of completed work. If contractors would search for their purposeful answer via the hotline, their peers (Email Forum), and mentors PRIOR to making critical decisions, it could help them avoid the hotline as a source of recovery. Please continue to utilize all the member benefits at your disposal to make the best technical and purposeful decisions.

## Safety & Risk Management Council

Mike Schneider, SRMC Director and Grant Johnson, Regional Mgr., Baker Concrete Const.

### Managing the Hazards of Wire Mesh and Alternate Systems

Wire mesh is a widely used form of reinforcement for concrete slabs-on-grade and slabs on metal deck. There are a variety of different grid sizes and wire gauges to choose from. It offers a relatively lightweight and easy to use alternative to rebar. It also comes with its own unique hazards associated with storage, handling and usage.

Wire mesh that is manufactured and shipped in rolls can pose both a shipping and jobsite handling hazard. The rolls (usually 5' wide and 100' long) can be difficult to stack or bundle, creating a cargo securement hazard. They also can become difficult to unload and handle on the jobsite. The rolls are heavy and pose the potential for back injuries during unrolling and installation. Unrolling also poses a high potential for lacerations and puncture wounds.

Once unrolled it is difficult to get wire mesh to lay flat on the subgrade or deck, and creates a tripping hazard for placing operations and other subsequent trade work. This also leaves the mesh at variable elevations within the finished slab, creating quality issues.

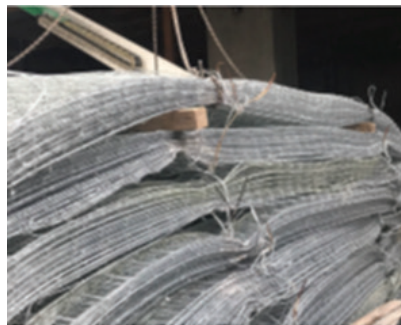


Wire mesh that is manufactured and shipped in flat sheets is large

and bulky creating shipping, handling and storage problems. While flat sheets greatly reduce the tripping hazards, large bundles of sheets can be difficult and hazardous to move.

Because of the way sheets are manufactured the laceration and puncture hazards still exist. Cut off and off fall pieces (scrap) of wire mesh can create clean up issues and create tripping hazards that are sometimes hard to see.

Wire mesh can be very helpful when constructing large, deep foundations that have a rebar spacing that prevents workers from walking safely on top of the rebar mat. When used in this



application, care should be taken to attach to the rebar top mat with tie wire to reduce tripping hazards as much as possible.

Alternative systems that eliminate the need for wire mesh but have similar structural and crack control properties include steel and polypropylene fibers. These fibers are introduced directly into the concrete mix and literally remove all the hazards mentioned previously.

Wire mesh, like all other components used in construction, has a place, provided the hazards mentioned in this article are identified and mitigated by means of worker awareness programs like morning huddles, STAs, JSAs and others. Proper material handling methods, good procedures and work practices, and the right PPE make for the safest use of mesh and all other building components.

## Protecting Early-Age Concrete from Multiple Freeze-Thaw Cycles during Construction

Bruce Suprenant, Technical Director

ACI 306R-88, “Guide to Cold Weather Concreting”, addressed multiple cycles of freezing and thawing by recommending that the concrete reach a compressive strength of 3500 psi prior to that exposure. ACI 201-77, “Guide to Durable Concrete”, also addressed the issue by stating: “Before being exposed to extended freezing in a severe exposure, it is desirable that concrete attain a specified compressive strength of 4000 psi. For moderate exposure conditions, a specified strength of 3000 psi.” ACI 308R-01, “Guide to Curing Concrete” stated that “Air-entrained concrete should not be allowed to freeze and thaw in a saturated condition before developing a compressive strength of 3500 psi.”

These three ACI documents have the following in common:

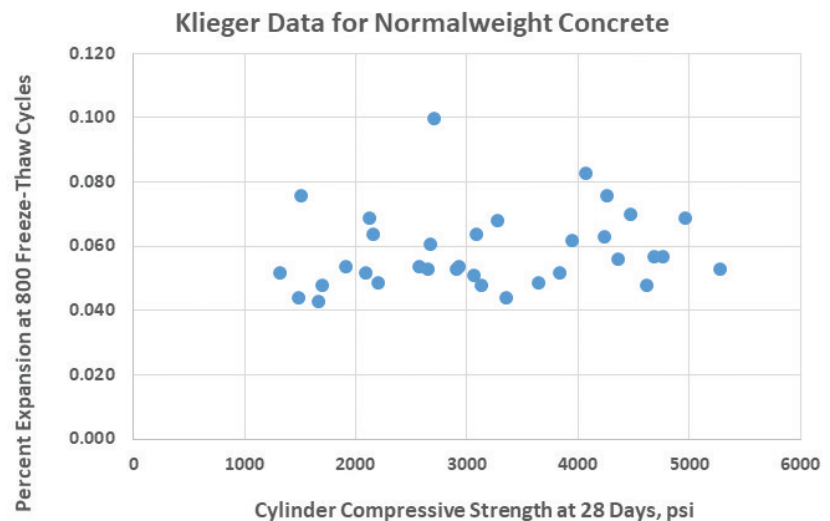
1. None of them include references to data from research done to document the need for compressive strengths ranging from 3000 psi to 4000 psi.
2. The recommendations still exist in the current committee documents.

Some specifiers require a design strength ( $f'c$ ) of 3000 psi for air-entrained concrete that might never achieve the recommended compressive strengths before being exposed to multiple freeze-thaw cycles. Based on research by Timms and Withey, it would take about 28 days to reach 3500 psi at 50F with a water-cement ratio of 0.53 and a cement content of 500 to 525 lbs./cy. We don't see contractors using insulating blankets for 28 days and we don't see any freeze-thaw failures. However, we are seeing inspectors citing the 3500 to 4000 psi recommendation and requiring that contractors protect the concrete until a maturity meter shows the appropriate strength. This is taking weeks.

The question is which is correct: the ACI documents recommending 3500 to 4000 psi, or our observations of no freeze-thaw failures when contractors protect the concrete with insulating blankets for only 3 to 7 days? We started looking for data and found an article by Klieger titled “Further Studies on the Effect of Entraining Air on Strength and Durability of Concrete with Various Sizes of Aggregates”—originally published in 1958 and republished in *ACI Concrete International* in November 2003.

The prism-shaped specimens used in the freezing and thawing tests were cured 1 day in the molds, 13 days in the moist room, 14 days in the laboratory (50% relative humidity) and then 3 days in water prior to the start of tests. Two complete cycles of freezing and thawing were obtained every 24 hours, the prisms being immersed in tap water at all times. The rate of cooling was about 20F per hour. Periodic determination of changes in weight, expansion and sonic modulus were used as criteria for durability.

We used Klieger's data to plot the following graph of expansion versus compressive strength. Higher expansions indicate lower quality concrete, with 0.1% expansion being considered the failure point. Freeze-thaw tests usually consist of 300 cycles, but Klieger extended expansion measurements to 800 freeze-thaw cycles specimens that had not yet reached 0.1% expansion. Based on the compressive strength recommendations for concrete exposed to multiple freeze-thaw cycles, we expected failures at concrete below 3500 or 4000 psi. However, concretes with compressive strengths as low as 1500 psi performed well for 800 freeze-thaw cycles. Someone needs to show us the reference that supports ACI recommendations. We don't think it exists.



## Lunch & Learn at World of Concrete

Have lunch in Banners Restaurant in the Las Vegas Convention Center during World of Concrete and you'll pay \$20 for a salad and iced tea. Or... pay a little more to attend one of the WOC luncheons (Polished Concrete or Quality Slabs) where you'll nourish your brain and your stomach. Both have an impressive group of panelists who are more than able to answer your questions.

**The Concrete Polishing Luncheon** on Tuesday, January 23 looks at The First Cut: Maximizing Tool Utilization. Every concrete floor is a little different—hard, soft, flat, bumpy, cracked. Choosing the best tool for each of these situations can be challenging. What bond material is best? Do you grind dry or wet? What grits provide the most efficient grinding? How can a contractor find the balance between tool cost and labor expense? How effective are chemical grinding aids? What's different about polishing an overlay? Contractors and polishing experts will present a number of floor options and share inside knowledge on maximizing productivity and profit under any conditions. Panelists are Chris Rains, Rainstone Services; Dave Bigam, National Flooring Equipment; and Brak Carmen, Curecrete Distribution.

Presented by Concrete Surfaces magazine and the ASCC Concrete Polishing Council and sponsored by National Flooring Equipment

**At the Quality in Concrete Slabs Luncheon and Forum** on Wednesday the topic is Building Concrete Floors Without Joints. Since joints are usually the first place concrete floors deteriorate, eliminating joints eliminates a lot of problems for owners. Several systems for placing extended joint floors have emerged over past years. A group of contractors with experience in these floor systems will describe their experiences and debate which is best. How do costs vary? Which work better for different floors?

The session will be moderated by Bryan Birdwell, senior concrete floor and paving consultant with Structural Services Inc. and a former award-winning concrete floor contractor. Bryan will be the impartial moderator as the following panelists describe their favorite jointless floor system:

Anthony DeCarlo: TWC Concrete Services/high macrofiber content floors

Greg Fricks: The Fricks Company/shrinkage-compensating concrete floors

Mike Gresser: Gresser Concrete/PrimXComposite

Stevie Ray Lloyd: Lloyd Concrete/Maxxcrete

Garrett Yocum: Guy Yocum Construction/Ductilcrete

This luncheon is presented by *Concrete Construction* and the American Society of Concrete Contractors, and sponsored by Somero Enterprises, Stego Industries, and Wagner Meters.

## CIM Auction at World of Concrete or Bid Online

The Concrete Industry Management (CIM) program – a business intensive program that awards students with a four-year Bachelor of Science degree in Concrete Industry Management – is pleased to announce that Kenworth and Kenworth of Central Florida have donated a T880S bridge formula truck chassis and Con-Tech Manufacturing has donated a Con-Tech BridgeKing 11-yard concrete mixer for the annual CIM Auction at World of Concrete.

“We are pleased to have this outstanding donation from Con-Tech Manufacturing, Kenworth and Kenworth of Central Florida,” said Eugene Martineau, Executive Director of the CIM National Steering Committee. “This mixer and truck unit will go a long way to help us achieve our fundraising goal. We are excited to have Con-Tech and Kenworth join our long-term major CIM auction donors that include World of Concrete, Ritchie Bros., Mack Truck, McNeilus Company, CEMEX, Lehigh Hanson, LaFargeHolcim, Somero Enterprises and Command Alkon to name a few. Because of their generosity and that of all our auction donors, we have the potential for our greatest auction ever.”

## HOT LINE QUESTIONS

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CONSTRUCTION**

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**SAFETY &  
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[srmc@asconline.org](mailto:srmc@asconline.org)

**DECORATIVE  
CONCRETE**

**888-483-5288**

Todd Scharich—[dcshotline@asconline.org](mailto:dcshotline@asconline.org)

ASCC members have access to these toll-free numbers for assistance.

### Webinars begin at 3:00 p.m. CST

Jan. 10, 2018

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