Message from the Executive Committee

This year’s Annual Conference was held in Charlotte, NC last month. It was very well attended, with attendance up 20 percent from the previous year. Charlotte was gorgeous, and it was hard to believe that Hurricane Florence had passed through less than a week before.

You have many choices on the events that you can attend, and my highlights were these:

- NRMCA president Bob Garbini detailed the escalating threat of high-rise mass timber buildings taking the place of concrete structures. Shockingly, this month the International Code Council (ICC) is considering allowing up to 18-story mass timber buildings. This is being done on a fast-tracked basis; without adequate fire testing for this new type of wood structure, or adequate material and connection testing for the cross laminated timber. NRMCA’s buildwithstrength.com website has information on this threat to the concrete industry and how we can all help counter it.

- After 40 plus years of considering the idea of having an ASCC “Proof of Quality” company certification process, Wahid Tadros is leading this effort and a consultant has been hired.

- Seth Randall, Clark Concrete Contractors, addressed the board on better head protection in the construction industry. The traditional hard hat can be dislodged in a fall, with workers sometimes receiving a traumatic brain injury. Clark and other contractors are transitioning to helmets with chin straps to reduce this possibility.

- This year is the 20th Anniversary of the Decorative Concrete Council (DCC). Fittingly, Byron Klemaske with T.B. Penick & Sons entertainingly presented Frank Lewis, one of the founders of the DCC, with an ASCC Lifetime Achievement Award.

- Eminent economist Anirban Basu of SAGE Policy Group gave an “understandable to a non-economist,” humorous and concrete industry specific economic review and forecast. The summary included his opinion that 2018 was better than good, next year might be too, but after that a potential deleveraging cycle, prompted by a repricing of assets, may cause bad things to occur.

- Mark Pew with Preferred Medical presented on alternate treatments for pain, instead of the opioids that are so routinely prescribed in our country.

- Dr. Bruce Suprenant led a distinguished, six-person panel discussion on the different systems available to successfully achieve expanded joint spacing on floors, 50 feet or further. The same panel members also led well attended, spirited roundtable discussions both days.

- ASCC always organizes golf and other fun activities for the Saturday afternoon of each conference. Included this year was the opportunity to take a three-lap NASCAR Ride-Along at top speeds, with a professional racing instructor at Concord Raceway.

The ASCC Annual Conference is always a great way to learn and network. Next year’s event will be in Chicago. Please join us.
I just returned from ACI’s Fall Convention in Las Vegas. It’s so gratifying to see more and more concrete contractors sending more and more representatives to ACI conventions and to see and hear ASCC’s name mentioned often as our members play a bigger role in the organization.

Some items of interest:

- Laser Scanning – Following ASCC’s laser scanning study October 6 & 7 in San Francisco, an entire session was devoted to this topic and event. There was a good deal of conversation in ACI 117 (Tolerances) as well, as TAC has approved a Guide on this topic.

- Paving Data – The same committee, 117, now a joint ACI/ASCC committee, is looking to collect data on paving projects. SSI has a reporting sheet that I will be sending to our members, asking your help with filling this request.

- Excellence Awards – Congratulations to four ASCC members, winners in ACI’s Excellence in Concrete Construction Awards:
  - First Place, Low-Rise Buildings, University of Iowa Visual Arts Building, Iowa City, IA
    - Ceo Concrete Construction, concrete contractor for flat slab shoring
  - First Place, High-Rise Buildings, Reston Station OB1 Tower, Reston, VA
    - Miller & Long, concrete contractor
  - Second Place, Decorative Concrete, The Water Garden, Santa Monica, CA
    - Morley Builders, general contractor
  - Second Place, Repair & Restoration, Ford Theatre Phase 2&3, Hollywood, CA
    - Charles Pankow Builders, Ltd., general and concrete contractor

- Architectural Concrete – It’s become evident over several meetings, some at ACI, some not, that a new definition of this type of construction, along with better methods of evaluating the finished product, are needed. Wondering if there’s a way ASCC can contribute.

- The new “Contractor’s Guide to Quality Concrete Construction” is ready to be printed. Rewritten by a single author, with color pictures and an updated layout, the 4th edition will be for sale at the 2019 World of Concrete.

- ACI 207 Mass Concrete – The next version of the ACI 207.1R Guide to Mass Concrete will include more specific thermal control guidance, relevant to structural mass concrete used in bridges, buildings, etc. Previous versions have been more focused on traditional mass concrete applications used in massive placements for dams in USACE/USBR type of projects. New information to be included:
  - Tools to determine possible placements that can be considered mass concrete,
  - Ways to estimate adiabatic temperature rise,
  - Temperature limits defaults vs. performance, and
  - Update to aggregate grading requirements in alignment with ASTM C33.

- 134, ACI’s new Constructability Committee, celebrated its first two columns in Concrete International, “Defining Concrete Constructability,” October 2018, and “Designing for Constructability – ADA Surface Accessibility,” November 2018. These were authored by our own Bruce Suprenant and contractor members.

For more information on any of these items, please don’t hesitate to contact me.

**Silica Compliance is Simple! (Sort of...)**

Those of us in the concrete industry will immediately recognize the title of this article as both misleading and untrue! Please accept it as my attempt to make a complicated and serious topic somewhat humorous (at least enough to entice you to read a few paragraphs). In the weeks and months leading up to OSHA’s September 23, 2017 implementation of the “new” silica standard, safety and operations professionals like myself scoured the internet for information regarding means and methods of compliance. There was plenty of information on the new standard, but very little “how to comply” information. Some of my peers admitted privately that their companies were taking a “wait and see” approach. One told me their decision makers were of the opinion it was foolish to spend potentially hundreds of thousands of dollars on compliance when it was possible OSHA would not enforce the standard, or, that some of the industry-led court challenges might overturn the regulations. Non-compliance was never an option for my company. We made the decision early on to find the best methods of compliance and teach our workforce to execute the plan to maximize safety, compliance, quality, and production.
The first step was to understand what activities generated the most airborne respirable silica, and quantify potential exposure. There were activities that we intuitively knew were over the limits of 25 micrograms per meter cubed (action level) and 50 micrograms per meter cubed (Permissible Exposure Limit/8-hour TWA). Saw cutting control joints and any activity involving concrete saws obviously. But what about not so obvious activities? Drilling into concrete using a 3/16” bit for wall forms? Above the PEL? Really? And what about cleanup? Why can’t we just blow off our footings with a gas powered blower anymore? We brought in an Industrial Hygienist to conduct testing. The results were inconclusive, but were high enough to make us pause. This was going to be a more complicated task than we thought! We met with reps from each of the major dustless tool manufacturers. We conducted tool demonstrations for superintendents, foremen, and safety leads. We gave the workers a voice in what tools we bought and how they were used. We also made a concerted effort to simplify the regulations. We needed procedures that every worker could quickly and easily understand. We tried to break down the complex regulations in easily understandable steps. Out of that process came our silica compliance standard: “Wet, Vac, Protect”. In our silica exposure control processes, there are three methods for compliance:

1) “Wet”; the most effective method of airborne respirable silica control. Unfortunately, in our operations there are only a few applications where water control is feasible due to staining, slurry, and availability of water. We use water extensively in our hydro-demo and renovation operations. Most of the major tool manufacturers feature tools that can be paired with a water source (typically a bladder or metered pump).

2) “Vac”; the most commonly used method in our operation is dustless tools paired with HEPA vacuums (hence the abbreviation “vac”). Saws, drills, grinders, even jack hammers can be easily equipped with vacuum attachments. Our goal is Table 1 compliance, and when paired with properly maintained HEPA vacuums (make sure there’s a bag in the vac!), the “Vac” option is typically the simplest, easiest, most economical, and effective method to protect our workers.

But what about those activities where neither “wet” or “vac” are effective, feasible, economical, or even possible? For us, one of those is grinding vertical and horizontal surfaces (as in patching tilt walls and SOG). We have tried nearly every manufacturer’s grinder and attachments, and have yet to find a grinder/shroud combo that is effective once the face of the grinder has less than 100% contact with the surface being worked. This leads me to our third and final process:

3) “Protect”; for applications where it is ineffective, or impossible to complete in a “dustless” manner, the third and final option entails “protecting” the medically cleared, fit-tested worker outfitted with a respirator, and “protecting” other workers (or the public) by segregating the work with physical barriers, controlled access zones, warning signage, or off-hour/second shift work. Obviously, cleanup has to be a consideration and “protect” applies here also.

These methods work for us. We train our workforce at New Employee Orientation, through periodic “Tool Box Talks”, and each November we have a entire month of focused “Silica Exposure Control” awareness training. Our goal is that any member of our workforce, from the newest apprentice to our president, can simply and easily summarize our Silica Exposure Control program in three simple words: “Wet, Vac, Protect”. “Professionals Do it Right” to us means we conduct our business the “right” way even when no one is watching. Our workforce understands the hazards of respirable silica and they have the tools and training to mitigate or eliminate the hazard. Everyone in the company wears those words on their hard hat and our leadership will often ask about it to measure understanding. Some of our workers have confided they are really happy to be working for a company that takes their health and safety seriously. Others are quick to point out that “I never liked the dust and I do a better job now that I don’t have to deal with it.”

ASCC Laser Scanning Study Completed in San Francisco

Bruce Suprenant, Technical Director

A laser scanning study was conducted on two, post-tensioned concrete floor slabs over the October 6 and 7 weekend in Walnut Creek, CA. The study was to evaluate the repeatability and reproducibility of locating target coordinates and measuring F-numbers. Two concrete slabs, one at the ground level and one at the podium level, each about 6,000 sf, were used as study sites.

Laser Study Parameters

Target Coordinates: The X, Y, and Z coordinates of four targets were provided to provide reference control for the laser and each participant provided the X, Y and Z coordinates of ten targets on horizontal and vertical surfaces. Laser scanning was done on targets located on ground level and podium level slabs and repeated on separate days. A robotic total station was used to determine the coordinates of all fourteen targets and was repeated three times to establish reference control.

F-number Repeatability: Parallel and perpendicular sample measurement lines were provided in accordance with ASTM E1155. The lines were marked on the concrete surface. Laser scanning for repeatability was done on the podium slab and repeated on separate days. A robotic total station was used to determine the coordinates of the start and end of each line and this was provided to the participants.

F-number Reproducibility: Laser scanning operators collected surface data to evaluate in accordance with ASTM E1155. Laser scanning was done on the ground level on two separate days. If parallel and perpendicular sample measurement lines were chosen on the first test day, then diagonal sample measurement lines were chosen for the second test day.
Laser Scanning

Eight separate laser scans took place on each of two days. Equipment included Faro, Leica and Trimble lasers. The laser scans included multiple set-ups and took about one hour to complete the scanning for each area. The data is being processed this week with results due by October 19. Stay tuned for the evaluation of the test results!

Participants

Planning—Bruce Suprenant, ASCC, Will Paul, BKF Engineers, Jim Klinger, Conco
✓ Owner/GC—Tony Joyce, Avalon Bay Communities
✓ Concrete Contractor—Tom Sprague, Don Thorburg, Jim Klinger, Conco
✓ Testing Agency—Jose Jacob, Hector Campos-Diaz, Anil Nethisinghe, CEL
✓ Observation: Eric Peterson, Webcor

Laser Scanning
✓ Andy Huntley, TAS Commercial Concrete Construction
✓ Aniruddha Anjana, Baker Concrete Construction
✓ Cutter Shea, Faro
✓ Leo Castillo and Leeroy Duarte, VEC
✓ Nathan Culver and Gustav Choto, Trimble Solutions USA
✓ Kevin Stein, Steve Smith, Heather White, BKF Engineers
✓ Josh Engelbrecht, DPR Construction
✓ Brandon Kovarick, CECO
✓ Leo Zhang, Conco

ACI Announces 2018 Excellence in Concrete Construction Awards

The American Concrete Institute (ACI) announced the winners of the 2018 Excellence in Concrete Construction Awards, honored during the Institute’s Concrete Convention & Exposition, October 15, 2018, in Las Vegas, NV.

The highest honor was presented to Viaduct Over River Almonte in Garrovillas de Alconétar, Cáceres, Extremadura, Spain. This award is given annually to one project that demonstrates excellence in concrete innovation and technology and stands out above all other entries.

The winning project details can be found at ACIExcellence.org. Entries for the 2019 Excellence in Concrete Construction Awards are being accepted now through April 2, 2019.