

STATISTICAL ANALYSIS OF TEST RESULTS + ADVANCING THE PRODUCT LINE

# PRECAST INC.®

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Troubleshooting  
**HOT WEATHER  
CONCRETING**



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**26** Allied Concrete Products in Grandview, Mo., celebrated its 70th anniversary in 2018 and has been a member of NPCA since 1966.

**On the Cover:**  
Employees of Allied Concrete Products gather near the company's batch plant as they gear up for the first pour of the day.  
*Photo by Kirk Stetsel, CAE*

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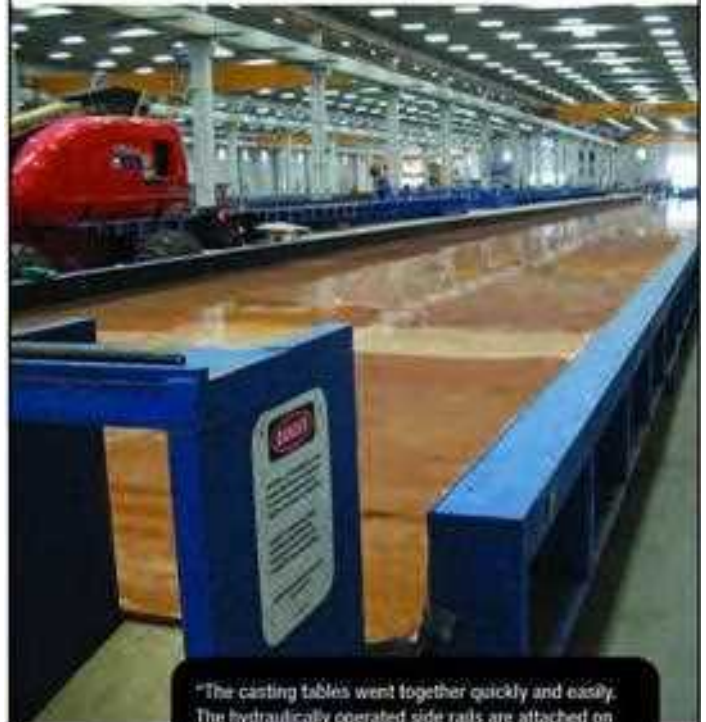
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# Questions from the Field

**Questions from the Field** is a selection of questions NPCA Technical Services engineers received from calls, emails and comments on blog posts or magazine articles on [precast.org](http://precast.org).

If you have a technical question, contact us by calling (800) 366-7731 or visit [precast.org/technical-services](http://precast.org/technical-services).

**Ron writes:**

## Can concrete slabs expand due to moisture to a size greater than their original dimensions when poured?

**NPCA Technical Services engineers answered:**

A slight decrease in concrete volume is possible for a variety of reasons, whereas an increase in volume is uncommon.

If a mix has been batched and calibrated to yield a true cubic yard (27 ft.<sup>3</sup>), then the addition of more water would add volume to the mix and potentially cause the appearance of expansion (over yield). However, the added water could also contribute to surface cracking, a reduction in concrete strength and increased susceptibility to shrinkage when the added water evaporates.

If a concrete mix has been poured and properly consolidated, and initial set has occurred within accepted temperature ranges, then the addition of water to the concrete surface would not create any measurable increase in volume or dimensions. If this concrete mix was cured with very high temperatures outside of the accepted range, then delayed ettringite formation may occur. During DEF, the hardened concrete generates a gel-like structure in the concrete paste, which creates expansion forces, and consequently tensile stresses, within the concrete. These stresses lead to cracking of the hardened concrete structure. This expansion is on a micro level and may not be measurable by normal devices or formwork.

**Sam writes:**

## Are there any other protective coatings for rebar besides epoxy?

**NPCA Technical Services engineers answered:**

Another protective coating option is galvanized rebar. Galvanization is the process of applying a zinc coating to the reinforcement, which provides extra protection against corrosion. Epoxy coating is considered a barrier-type coating, while some consider galvanization both a barrier and a sacrificial coating. Proponents of galvanized bar point to the fact that the zinc coating has to be completely eroded in order for the steel to be exposed.

Both epoxy-coated and galvanized reinforcement help protect reinforcing steel from water intrusion, which can oxidize and corrode steel. Coated bars are particularly useful in environments where products are exposed to brackish water and when exposure to salt and chlorides is expected. No matter the type of rebar used, it is imperative

to follow best practices and any special measures deemed necessary by the reinforcement manufacturer to protect the coating's integrity while the reinforcement is in storage, being handled, during fabrication, etc.



**Steve writes:**

## I am working on a project using absorptive precast concrete sound walls. In regard to finishing the wall panels, a question came up and I was hoping to get some help: What is a double-raked finish?

**NPCA Technical Services engineers answered:**

A double-raked finish is sometimes referred to as fuzzy-rake or random-rake finish. It's often used as an anti-graffiti surface.

Using #57 aggregate, allow the concrete to reach its initial set after screeding. Next, using a garden rake, carefully stir up the coarse aggregate near the unformed surface by using a circular motion with the rake, being careful to only rake as deep as necessary to bring the coarse aggregate to the surface. Then go back and ensure the finish is consistent. Please see the included photo for an example of a double-raked sound wall finish. **PI**



# ONE THING

## STATISTICAL ANALYSIS OF TEST RESULTS

By Phillip Cutler, P.E.

**Editor's Note:**

*This is the third article in a year-long series that focuses on the details and more technical aspects of one common thing precast concrete producers do on a daily basis.*



When we mention statistical analysis of test results, most people likely cringe, but some brave souls might jump at the opportunity to dive into a data set to see what is happening in various processes of batching and fresh concrete testing. Either way, it's an important topic worthy of discussion as it directly impacts the quality of our concrete.

For this example, we will investigate test results and batching data for a 5,000-psi self-consolidating concrete mix design over a 12-month period. There were 40 discrete data points in this population with a complete batch plant ingredient print out and a full set of plastic concrete test data for each. Data points were pulled from plant records as few as twice per month and as frequent as seven times per month over this population.

Before we dive in to the statistical analysis, let's familiarize ourselves with terms and definitions.

**Mean** – There are several kinds of mean in various branches of mathematics (especially statistics). For a data set, the arithmetic mean, also called the mathematical expectation or average, is the sum of the values in the population is divided by the number of values in the population. The mean is represented as X-bar.

**Standard deviation** – In statistics, the SD, also represented by the lower-case Greek letter sigma  $\sigma$ , is a measure that is used to quantify the amount of variation or dispersion of a set of data values.

**X-bar chart and R chart** – An X-bar chart and R chart is a pair of control charts used with processes that have a subgroup size of two or more. The standard chart for variables data, X-bar and R charts help determine if a process is stable and predictable. The X-bar chart shows how the mean or average changes over time. The R chart shows how each data point in the subgroup changes over time and is also used to monitor the effects of process improvement theories.

**Upper control limit** – The UCL is a pre-established value, and in this case, it will be set by the mean plus 3 standard deviations of the population.

**Lower control limit** – The LCL is a pre-established value, and in this case, it will be set by the mean minus 3 standard deviations of the population.

## CONCRETE DENSITY (UNIT WEIGHT)

Our first set of charts illustrates control chart plots of concrete density or unit weight (lb./ft.<sup>3</sup>) tests. A plot of these test values is of particular interest and importance to the plant as a direct measure of concrete yield. When a producer batches a load of concrete, they expect to fill a form or series of forms with that load. If the batched concrete density is lower or higher than expected, the batch will produce over or under the target relative yield value, respectively.

Looking first at the X-bar chart (Fig. 1), we see one concrete density data point below the LCL and at least three additional significant spikes in the values for density. The remainder of the data points fall fairly close to the mean value. We also note that the mean of this population is slightly above the target value set by the mix design. While we expect to see some variability in the actual test results from

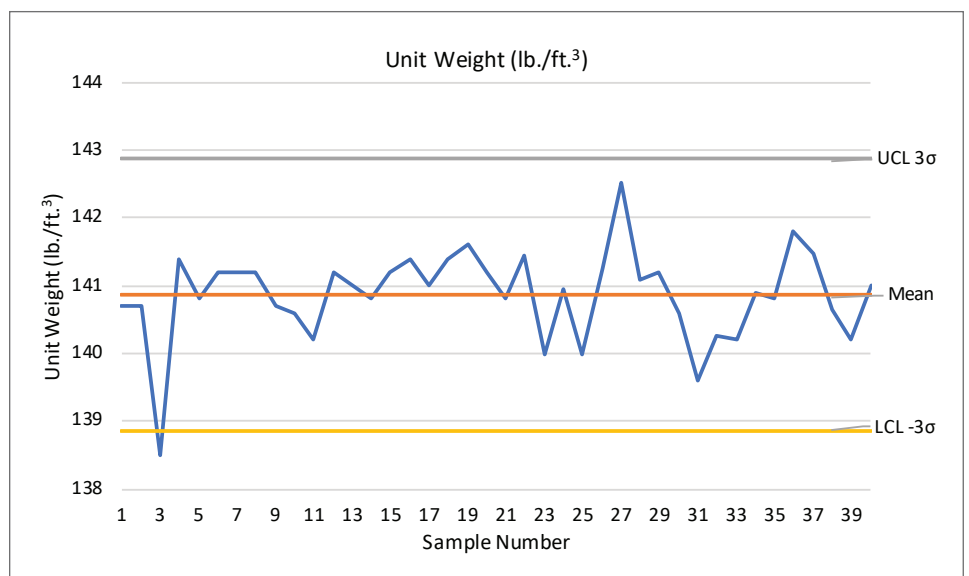


Fig. 1: X-bar chart showing the unit weight of each sample in comparison to the mean unit weight of the entire population.

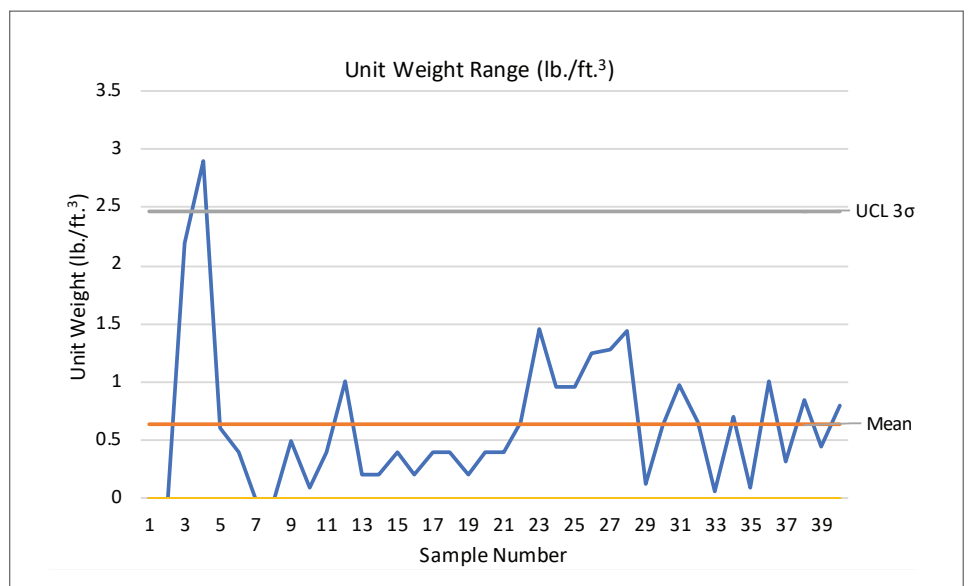


Fig. 2: R chart showing the change in unit weight values (lb./ft.<sup>3</sup>) compared to the mean change for the entire population.

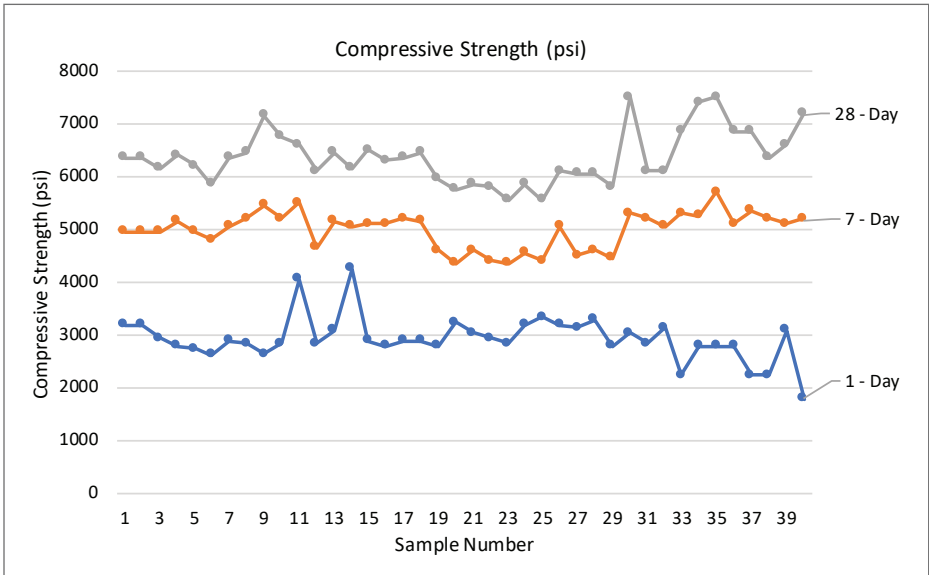


Fig. 3: Compressive strength values at 1 day, 7 days and 28 days for each sample.

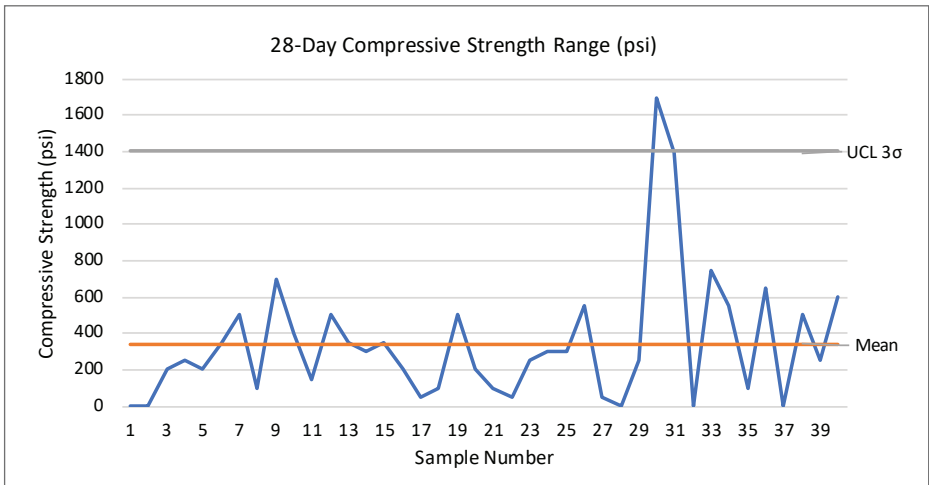


Fig. 4: R chart showing the change in 28-day compressive strength values (psi) compared to the mean change for the entire population.

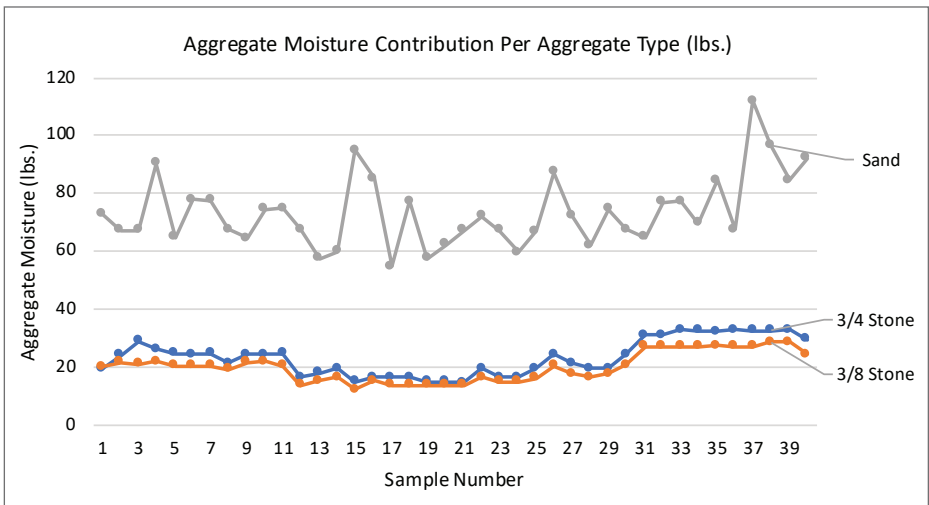


Fig. 5: Total aggregate moisture contribution by the 3/8 stone, 3/4 stone and sand, per batch.

day-to-day, points outside of the calculated control limits are opportunities for further investigation by plant quality personnel. The first dip below the LCL should be investigated. Starting at point 15, there are 6 successive values above the mean, which should also trigger a closer look.

Looking at the R chart in Fig. 2, we see the ranges of unit weight from point to point. Again, we recognize an opportunity to investigate the root cause of nearly a three-pound-per-cubic-foot difference in consecutive weeks. Looking beyond the major spikes in the range chart, it appears that the process is fairly predictable and slightly over target.

**COMPRESSIVE STRENGTH**

Next, let's take a look at the compressive strength for overnight, 7-day and 28-day time durations (Fig. 3). At first glance, we see that with the exception of the last data point, the concrete reaches reasonable and generally adequate overnight stripping strengths. There are at least three points of interest on the plot of the overnight break values that would be considered for further investigation, which are Sample Number 11, 14 and 40, representing values of 4,050 psi, 4,250 psi and 1,792 psi, respectively.

The 7-day and 28-day strength plots exhibit similar trends but there appears to be greater variation in the 28-day breaks beyond data point number 29. In addition, the 7-day break line indicates that the process is predicting less than the 5,000-psi design strength consistently from data point 19 through point 29. The 28-day plot is fairly consistent until data point 29 where the process indicates more unpredictable results.

Using the R chart (Fig. 4) and plotting the point-to-point change in 28-day compressive strength, we illustrate the variation of the 28-day strength values over the year. If we neglect points 30 and 31 initially, we see that the 28-day strength values are predictable and fairly consistent within a range of approximately 300 psi. Looking at the entire data set indicates that there is some type of process anomaly occurring at points 30 and 31 resulting in values above the upper control limit. This represents an opportunity to conduct further investigation on possible root causes.

**AGGREGATE MOISTURE CONTENT**

Our next set of data to investigate is aggregate moisture content. In Fig. 5 we see

values for 3/8 inch stone, 3/4 inch stone and sand plotted from January through December. As expected, the moisture contribution from the fine aggregate is significantly higher than that of the coarse aggregate. In addition, we see the coarse aggregate moisture content has significantly less variation than the fine aggregate.

Investigating further, we again look to the R chart (Fig. 6) to illustrate the variation. The variation in the fine aggregate moisture content is significant, making predictability difficult if not impossible in our example. There does not appear to be a correlation in the three parameters we have investigated thus far. However, there are many more possibilities and parameters that can be plotted together.

### INTERACTION OF VARIABLES

In some analyses it is not readily apparent that there may be an assignable cause of the variation in the test data as shown on either the X-bar or R chart. These cases encourage us to take a deeper look at the data for a possible correlation between multiple test parameters. For example, as shown in Fig. 7, two variables – unit weight and air content – are plotted together on the same graph. Our first observation is that the density and air content are tracking together. For some samples, both the unit weight and air content appear to rise and fall simultaneously, while other samples exhibit the opposite behavior. Is this a characteristic of this particular mix design or all mix designs used at the plant? Should we be seeing a different relationship? What is this correlation telling us? Can we determine an assignable cause or do we look elsewhere?

### BENEFITS OF STATISTICAL ANALYSIS OF TEST DATA

The benefits of performing statistical analysis of test data are sometimes not obvious. Plants can identify reasons for changes in their batch and continuously refine processes to drive variation to zero. Refining your mix design over time can save money on raw material cost and make processes more predictable and reliable. Certified plants are required to perform concrete testing, so why not use the data you're already collecting to your advantage? The odds of determining the root cause of a process problem by analyzing test data

is significantly higher than by random sampling alone. The data – especially when presented visually, as in graphs where trends and outliers are more obvious – will point you toward the cause of the anomaly, help refine your decisions and make the appropriate changes.

Plants that use test data and perform statistical analysis to investigate process variation with the goal of driving their process variation closer to zero are performing a continuous improvement activity. NPCA Certified Plants participating in continuous improvement activities in Section 1.1.4 of the NPCA Quality Control Manual for Precast Concrete Plants would earn an additional point toward their audit score by performing this analysis on a regular and ongoing basis.

All of the plots in this example were generated using the standard functions in Microsoft Excel. There are many statistical analysis software programs on the market that can be used to perform data analysis. There are also add-ins available that can enhance the performance of Excel for this purpose.

A special thanks goes to Scituata Concrete Products for sharing a portion of their batch and test data in support of this article.

If you have questions, contact Phillip Cutler, P.E., director of quality assurance programs, at [pcutler@precast.org](mailto:pcutler@precast.org) or (800) 366-7731. **PI**

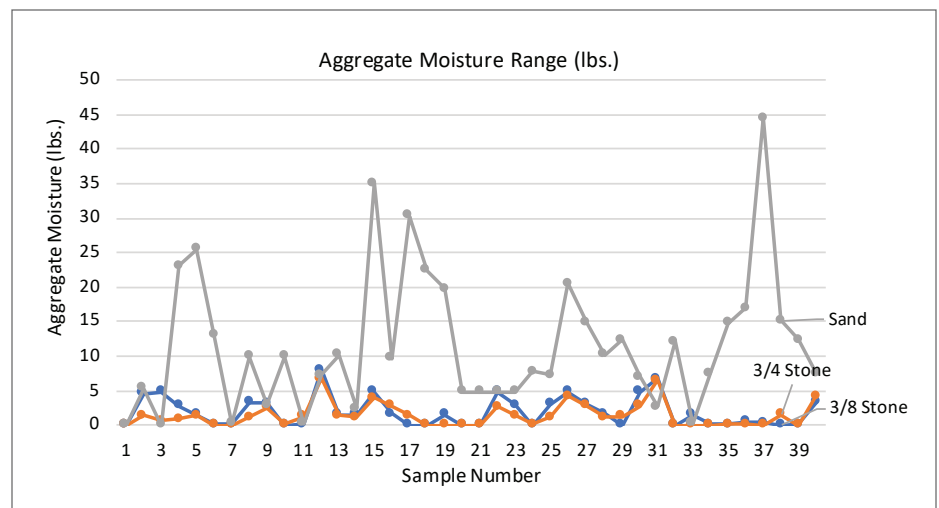


Fig. 6: R chart showing the change in aggregate moisture content (lbs.) from sample to sample.

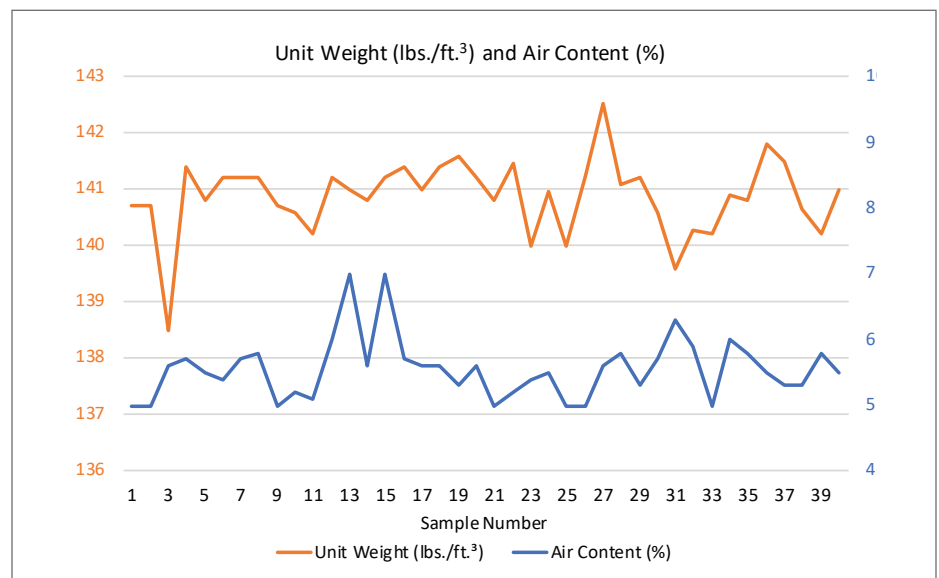


Fig. 7: Comparison of unit weight (lbs./ft.³) and air content (%) of each sample.



# Troubleshooting **HOT WEATHER** Concreting

By Kayla Hanson

**A**lthough the calendar tells us summer has not officially started yet, the days are getting sunnier, temperatures are rising, flowers are in full bloom and cold drinks beckon. And, we aren't the only ones feeling the early onset of summer – concrete is feeling it too.

High ambient temperatures, low humidity, wind or any combination of the three can negatively impact raw concrete materials and sabotage your usual mixing, transporting, placing, finishing and curing practices. ACI 305, "Guide to Hot Weather Concreting," outlines best practices to help minimize harmful effects on fresh and hardened concrete as a result of environmental factors in warmer months.

According to ACI 305, "If the initial 24-hour curing is at 100 degrees F, the 28-day compressive strength of the test specimens may be 10-to-15% lower than if cured at the required ASTM C31 curing temperature."

## WHAT COUNTS AS "HOT" WEATHER?

An 80 degrees F day during the month of May might seem like a heatwave in Wisconsin or a surprisingly comfortable day in Texas, so it's important to clearly define hot weather in your plant-specific quality control manual and know when to take the proper precautions.

ACI 305, which is used both in precast and cast-in-place applications, defines hot weather as "job-site conditions that accelerate the rate of moisture loss or rate of cement hydration of freshly mixed concrete, including an ambient temperature of 80 degrees F or higher, and an evaporation rate that exceeds 1.8 lb./yd.<sup>2</sup> per hour, or as revised by the architect or engineer."

The term "job site" as applied to precast operations covers batching, mixing, placing and curing areas.

It's important to remember that hot weather concreting is not limited to high temperatures. Windy conditions, direct exposure to



NIPCA file photo

sunlight and low humidity can also create hot weather concreting conditions. Anything that will raise concrete temperature and dry out the surface may create short- or long-term issues.

## CLUES TO WATCH FOR IN FRESH AND HARDENED CONCRETE

The most commonly occurring fresh and hardened concrete issues associated with hot weather concreting are outlined here, along with possible causes and tips for troubleshooting.

**A STICKY MIX WITH LOW WORKABILITY:** Fresh concrete should have a consistent texture and flowability. Watch for mixes that look lumpy or dry in certain areas, feel sticky or flow less smoothly than expected during placing. The concrete may also adhere to the finishing equipment or trowel when finishing the unformed surfaces.

**Possible causes:** Many factors could be at play here, however; with respect to hot weather concreting considerations, the most likely cause is insufficient mix water.

**Solutions to consider:** First, check your batch plant printout from the batch in question to determine how much total water was added as well as the total weight of cementitious materials (portland cement, blended cement, and supplementary cementitious materials like fly ash, slag or silica fume). If the w/c is lower than expected, the water meter likely needs immediate calibration. If the w/c is higher than expected and out of tolerance, the mix must be discarded. If the w/c is within the target range, check to see if the coarse and fine aggregate moisture contents were tested. In the warmer months, and especially on windy days, aggregates will be batched into the mixer in moisture conditions shockingly close to an oven dry condition. Be sure the aggregate moisture contents are checked at the necessary frequency and the moisture adjustments are being made correctly for each batch. Also investigate the mix proportions to ensure they are ideal for the given conditions and are designed to produce the desired fresh concrete properties. Contact your admixture, cement and supplementary cementitious materials suppliers for specific recommendations. Your material suppliers, particularly chemical and mineral admixture suppliers, will likely have specific requirements for batching sequences and mixing durations after each raw material addition. Lastly, if the fresh concrete was dispensed from the mixer and appeared flowing and workable as usual and the first realization the mix was sticky came when the unformed surfaces were being finished, the unformed surfaces may simply need to be finished sooner in the summer when the mix is capable of curing faster.

**HIGH FRESH CONCRETE TEMPERATURES:** The temperature of fresh concrete at the time of placing should never exceed 90 degrees F. If the concrete temperature exceeds 90 degrees F, there is a significant risk that concrete strength and durability may be compromised.

**Possible causes:** The combination of hot raw materials batched into a mix, as well as exposure to hot surfaces such as chutes, reinforcing and forms, may significantly raise fresh concrete temperature.

**Solutions to consider:** If the fresh concrete temperature exceeds 90 degrees F or is out of tolerance, consider implementing methods for reducing the temperature of different components of the mix. Wetting or watering aggregate stockpiles with a sprinkler system can help cool the aggregates slightly. Consider using chilled water in the mix. Water can be cooled to as low as 33 degrees F. Also consider adding ice as a partial mix water replacement. The ice should not account for more than 75% of the total mix water and all the ice should completely melt during mixing. Ice should be in the form of chips, shavings or small pieces rather than cubes, blocks or large chunks. Try to keep the forms and reinforcing out of direct sunlight prior to casting. If the fresh concrete temperature is already approaching its upper limit when it is placed into a form that has been sitting in the sun all morning, the heat absorbed by the form will increase the fresh concrete temperature and could impact curing.

**PLASTIC SHRINKAGE CRACKS:** Plastic shrinkage cracks manifest as thin, shallow, spidery cracks on unformed product surfaces within the first 24 hours after casting. They may also appear as long, thin cracks running nearly the full unformed length or width of a larger, flat precast concrete product.

**Possible causes:** Plastic shrinkage cracks occur when moisture near the surface of freshly placed concrete evaporates faster than the replenishing ability of rising bleed water. The expedited evaporation while concrete is in the plastic, or non-hardened, state causes shrinkage and contraction at the concrete surface and results in shallow surface cracks. The cracks can be caused by high ambient temperatures, wind, low humidity, lack of protection from those elements or any combination thereof. Typically, long, thin plastic shrinkage

cracks on larger unformed surfaces of flat products are the result of wind, and often run perpendicular to the direction of the wind. Additionally, according to ACI, “concrete mixtures that incorporate fly ash, silica fume, or fine cements frequently have a low-to-negligible bleeding rate, making such mixtures highly sensitive to surface drying and plastic shrinkage, even under moderately evaporative conditions.”

**Solutions to consider:** Protect products from the hot, drying environment. Cover the unformed surfaces with tarps or plastic sheeting that are preferably light in color so they retain less heat. Cover the products as soon as the unformed surfaces are finished. Also consider applying moist pieces of burlap on the unformed surfaces before covering the products with tarps or plastic sheeting. A curing compound may also be used to help prevent surface moisture evaporation in extreme cases where other preventive measures may not be as effective.

**REINFORCEMENT SHADOWING:** Reinforcement shadowing appears as dark gray, almost black concrete on the formed product surfaces that seem to show exactly where the steel reinforcement is placed.

**Possible causes:** Although this could be the result of not having the required 1/2 inch of concrete cover over the reinforcement, another likely cause could be the reinforcement was warm when the fresh concrete was poured around it. The warm, or sometimes hot, reinforcement can cause the fresh concrete surrounding it to cure more quickly, sometimes resulting in a dark shadow-like outline which shows where the reinforcement is located.

**Solutions to consider:** Store reinforcement indoors, if possible, or protect it from the sun’s rays with light-colored tarps. Try to ensure the reinforcement temperature is similar to the fresh concrete at the time of placement.

**LOW ONE-DAY COMPRESSIVE STRENGTH BREAKS:** When performing 24-hour, one-day or stripping-strength compressive strength cylinder tests, the average of the results from two cylinders from the same batch, cured in the same manner and tested at the same age show a

statistical outlier that is unexpectedly low. The results may not be out of tolerance, but they are noticeably lower than usual for the particular mix design.

**Possible causes:** In hot temperatures, precasters may use a mix design that has been modified with a set-retarding admixture, a low-early-strength cement or a slightly higher amount of supplementary cementitious material, or any combination thereof. All raw materials must be carefully measured, dosed and weighed during batching. Set-retarding admixtures are beneficial in warm temperatures to help regulate the cement hydration reactions, prevent accelerated setting and ensure the fresh concrete will remain workable for an appropriate amount of time. Use of SCMs as a partial replacement for portland cement can result in slightly slower compressive strength development when compared to a mix that uses only portland cement.

**Solutions to consider:** Check the batch plant printout for the batch in question to determine which admixtures, cement type and SCMs were used, and verify that the batched quantities fell within the tolerances set by the mix qualification documentation. If the quantities were within tolerance, check the ambient curing temperature record from the day prior when the cylinders were cast. Was the temperature as high as anticipated? If not, especially if the temperature was quite a bit lower than expected, using the hot weather retarding mix design that day may have been unnecessary. Also check with your admixture or SCM supplier to determine if the mix proportions should be adjusted. If the quantities on the batch plant printout are out of tolerance, the batching equipment most likely needs to be calibrated.

**HIGH ONE-DAY COMPRESSIVE STRENGTH BREAKS:** When performing 24-hour, one-day or stripping-strength cylinder breaks, the average of the results from two cylinders from the same batch, cured in the same manner and tested at the same age shows a statistical outlier that is surprisingly high. Although this may not seem like an issue, it is worth investigating to determine the cause as there could be long-term issues or cost-savings hiding behind those flattering test results.

**Possible causes:** Higher ambient temperatures or higher



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fresh concrete temperatures expedite cement hydration reactions. When the reactions occur at a faster rate, the concrete gains strength at a faster rate. If the concrete gains strength at too much of an elevated rate, it could result in hardened concrete issues like lower overall long-term strengths and risks to durability.



Wetting or watering aggregate stockpiles with a sprinkler system can help cool the aggregates.

**Solutions to**

**consider:** Check the batch plant printout from the batch in

question to verify the type of raw materials and the quantities of each raw material were as intended and within tolerance. Review other fresh concrete testing data from the previous day when the batch was mixed. If any other test results seem out of the ordinary, what could have caused the variation? Was the winter mix design with high-early-strength cement accidentally used? Was more cement batched into the mixer than usual even if the total amount was still within tolerance? Did any other raw material quantities show variations or raise questions? Were they all appropriate for their intended use? For example, a high-early-strength cement or a set-accelerator are probably not necessary in most hot weather precast applications. Although high strength results may indicate you're making a strong mix, strength results that are out of the ordinary in either direction deserve investigation – some variation in the material or process caused it. It's a great opportunity to identify an oversight, catch scales that need to be calibrated or tighten up QC practices.

**PREPARE FOR WARMER WEATHER**

With any variation in either fresh or hardened concrete properties, it's imperative to investigate the factors at play and identify – and resolve – the cause of the variation in order to put a practice in place to help prevent it from happening again.

As you're investigating, be sure the raw materials and the mix proportions you're using as we head into the warmer months are appropriate for their intended use and are designed to provide the desired fresh and hardened concrete properties. Now is also a good time to review ACI 305 in its entirety, brush up on hot weather concreting best practices, ensure the procedures outlined in your plant-specific QC manual accurately reflect your operations, and be able to identify signs of issues in fresh and hardened concrete as a result of the warmer weather. **PI**

*Kayla Hanson is NPCA's director of technical services.*

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# Workforce Development: **RETENTION**

By Alex Morales, M. Ed.

**Editor's Note:** This is the last article of a series on attracting, training and retaining talent.



Providing a catered lunch for employees can improve workplace morale.

**W**e began this workforce development series with data showing the scarcity of available plant-floor labor, which is expected to get worse over the next decade.

“We had a good workforce and weren’t really paying attention to the issue until the last four or five years,” said Bill Bundschuh, president of PRETECH Corp. “The available talent just seemed to taper off.”

Ritner Day of ConcreteCareers.com confirms the shortage has slammed precasters across North America.

“As recruiters to the precast industry, we are seeing the labor market become increasingly competitive for talent,” Day said.

These experiences signal a stark call to action for the precast industry. The industry cannot succeed without a labor force that produces and installs the products.

In terms of entry-level plant-floor employees, precast manufacturers need to stop thinking of other precasters as competitors in the marketplace. All manufacturing environments – such as vehicle assembly plants, recycling plants, clothing distributors and electronic component manufacturers – are competing for the same small pool of available talent. With the scarcity of labor, if an employee is lost to another precaster, that’s better for the industry than to lose them to a vehicle assembly plant, for instance.



The industry as a whole will be more successful if it is united about employment issues. The labor force needs to see the precast industry as the best manufacturing place to work.

The precast manufacturing environment is distinct from plants that manufacture consumables because precast concrete products are shipped to job sites to create durable, resilient, and, in some cases, beautiful and boundary-pushing structures. Regardless of the specific products a plant manufactures, the modularity of precast concrete is often touted because of its impact on the speed of construction. Consider framing the work that takes place on the plant floor as work that is creating the next stadium, row home or opera house. Touring completed projects with plant-floor employees helps connect their day-to-day work to the built environment. Our industry can provide a sense of pride and accomplishment that is difficult to find at bottling plants, recycling plants or elsewhere. The industry can better retain employees when they are passionate about precast concrete and the impact their work has on the community at large. Leverage that benefit with your employees.

Of course, that's easier said than done. A solid workforce development plan addresses three things: attraction, training and development, and retention. Each facet of the plan needs to be fully engaged for the overall effort to succeed. Our efforts to attract talent must coexist with our efforts to train and develop employees in the specific skills that both interest them and benefit the plant. These efforts must also coexist with a solid retention strategy, so employees are not lost to another industry. Taking employees on site tours to see what they've created isn't going to solve the workforce problem completely, but it's a great start.

## MONEY IS NOT A RETENTION STRATEGY

If you've lost employees in the past to a local facility that simply paid more per hour, you might think paying more than local market rates is enough to keep your employees. PRETECH Corp. was struggling with flatworkers leaving when construction peaked each year because they could get paid more per hour, but employees were told to look at their W-2s, not their paychecks.

"We strive to keep employees working throughout the year when those other options just lay them off," Bundschuh said.

According to the Manufacturing Institute's study, "The Skills Gap in U.S. Manufacturing," wages are not the only answer. It states, "While paying higher wages to attract the skilled workers may help attract talent, it isn't likely enough to single-handedly solve the talent issue."<sup>1</sup>

In fact, the Manufacturing Institute also published a study, "U.S. Public Opinions on Manufacturing," stating: "Job security and stability was the most common reason given as to why respondents would not encourage someone from a younger generation to pursue a career in manufacturing."<sup>2</sup>

Over the next decade, the solution to attract and keep people is not more money – it's job stability and security.

## STABILITY

"It is important for management to discuss each employee's future with them," Day said. "They do not want to guess what is in store for them."

In the precast concrete industry, employees have traditionally been laid off temporarily when production is impacted by weather,

government spending or other factors. Many manufacturing environments do so, but is it possible to address housekeeping, safety, maintenance or other projects during those times to prevent a temporary layoff?

"Whenever we're not pouring, we redirect work to fixing machinery, shoveling snow and ice or overall plant cleanliness," Bundschuh said.

Deloitte's 2018 Millennial Survey report, "Millennial's Confidence in Business, Loyalty to Employers Deteriorate," shows a "clear, negative shift in millennials' feelings about business' motivations and ethics."

Among the things the report cites about millennials' beliefs is that they have a clear expectation that companies will offer them stability and security in terms of "job creation, career development and improving people's lives."

## "Do you look at your employees as an expense or as an investment?"

– Ritner Day, *ConcreteCareers.com*



Western Concrete Products hosts an employee recognition party and lunch annually to honor each employee's length of service and accomplishments.

"Do you look at your employees as an expense or as an investment?" Day said. "One mistake that we continually see is that employers want to be competitive, but don't go beyond what it takes to attract top talent."

Bundschuh encourages precasters to investigate whether their state offers partial unemployment benefits.

"Fifteen states or so have this benefit," Bundschuh said.

"Unemployment is controlled by the business and we can work employees three days a week, for instance, while they collect unemployment for the other two."

If you are in a state with such a program, participating in it can encourage employees to stay with your plant as you work with them to ensure employment stability when they might have otherwise left during long layoff periods.

"Unemployment benefits are issued by each state agency and you will need to investigate what is available in your state," Bundschuh said.

If you're looking for ideas to keep employees working during slower production times, consider training options discussed in

## We must stop thinking of other precasters as our competitors in the employee marketplace.

the previous article. Training all your employees in Production and Quality School Level I can even qualify your plant to earn continuous improvement points on your plant certification audits, which is a win-win for everyone.



Workplace wellness programs offer a great way to improve employee satisfaction, well-being and fitness, and reduce workplace injuries.

### SECURITY

Providing alternative job tasks during slower production periods provides a stable, consistent income for your employees and sharing with them completed projects they helped to make possible shows them they are improving people's lives.

"Top employees will not tolerate a company culture with no future," Day said. "As it is an employee market, there are too many options for them to look elsewhere."

PRETECH Corp. goes beyond job security during slow periods and looks at employee benefit packages. It is the company's way of providing overall stability and security in their employees' lives.

"We pay the majority portion of the cost of health insurance for employees and their families, too," Bundschuh said.

Bundschuh believes this communicates to his employees the company's commitment to their overall well-being but it also motivates consistent attendance.

"When the family at home needs health insurance, the employee is less likely to jeopardize their job," he said.

### CULTIVATE RELATIONSHIPS WITH YOUR EMPLOYEES

In the second article of this series, we discussed the importance of personalizing a training

and development plan for each employee to make them feel like the workplace cares about them as individuals. Providing a stable and secure work environment strengthens the relationship you have with your employees because it helps build their confidence in you and in themselves. Studies referenced throughout this series relay a common message that younger generations are skeptical of today's businesses' commitment to employees. Precast manufacturers can be different.

"Young professionals are ... seeking help building confidence (and) interpersonal skills," Deloitte states in its 2018 Millennial Survey Report. "In their view, businesses are insufficiently focusing on nurturing these and similar soft skills."<sup>3</sup>

In order to be a standout employment option, the precast industry needs to meet those needs in order to attract and retain employees. This presents an opportunity to train employees in some of these skills during slow production periods.

"Gen Z respondents ... feel they need to develop their confidence and interpersonal skills ... based on experience. They anticipate looking to employers for both formal and informal support in areas such as communication, leadership, finance, economics, language ... and analytical skills."<sup>3</sup>

PQS online is a great option for employees during slow production periods, but you should also consider training beyond production and quality. Talk to your employees about how your company can best be supportive throughout the year and invest in them even during slow production periods.

### DIVERSITY AND FLEXIBILITY

Millennial and Gen Z employees have placed

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expectations on the support they receive from employers, wanting it to align with their values. Among other factors, a lack of flexibility in their work will encourage these younger workers to pursue employment elsewhere.

According to Deloitte's 2018 Millennial Survey, "Forty-three percent of millennials envision leaving their jobs within two years ... Employed Gen Z respondents express even less loyalty, with 61% saying they would leave within two years if given the choice."<sup>2</sup>

These numbers are far below the median employee tenure of 4.2 years. While attracting the younger generation may take a higher starting wage and a commitment to training and development, retention "is enhanced when businesses and their senior management teams are diverse, and when the workplace offers a higher degree of flexibility."<sup>2</sup>

Diversity is not solely about racial and ethnic makeup. Economic, gender and educational diversity will also show an employee they have the potential to be a leader one day, if they stay at the company. Promoting from within will encourage employees not just to do their best but to stay with your company for the long term. If employees can relate to their supervisors and company leaders, you improve the chances they see themselves in leadership positions at your plant.

Flexibility is an area many manufacturers struggle with, especially precasters who have specific stripping times in order to turn forms and keep production active. However, balancing a personal life with work is

as important to production-floor employees as it is to senior managers, so adding flexibility is encouraged. Can you add a position on the floor to compensate for flexibility? There's a cost-benefit analysis to be done there for each manufacturer, but it should be done to ensure you investigate every possibility to provide flexibility.

## UNITED TOGETHER

Ultimately, a good retention strategy is one that you must consider thoroughly. We've spotlighted the efforts of various precasters throughout this series and you may decide that some of the tactics that work at other companies may not work for you. That's OK, but consider every option and decide what improvements you can handle right now.

NPCA is united with precasters and suppliers in the effort to find and keep top talent in the precast industry and will continue to share ideas to help every member plant attract, train and retain the best manufacturing workforce possible. **PI**

*Alex Morales, M. Ed., is NPCA's director of workforce development.*

### RESOURCES:

- 1 <http://www.themanufacturinginstitute.org/~media/827DBC76533942679A15EF7067A704CD.ashx>
- 2 2015 Manufacturing Perception Study, Manufacturing Institute and Deloitte, 2015
- 3 <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html>



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Photo courtesy of Utility Construction Products

More precasters are moving away from just manufacturing commodity products and are adding more custom products to their lineup.

# ADVANCING THE PRODUCT LINE

Precasters are advancing the industry by expanding their product lines and reaching new customers.

By Bridget McCrea

There comes a time for every business when its leaders need to ask themselves if it's time to branch out into different products, production methods or completely new lines of business. By branding multiple product lines under the same business or employing new manufacturing methods, companies can gain access to new customer bases that they wouldn't previously have been able to serve.

Of course, with new ideas, products and services comes the challenge of folding these innovations into an existing plant, hiring new expertise, investing in new equipment and determining how best to serve a new customer base. This can take work, time and financial investment, but the payoff can be well worth it.

That's what Garden State Precast learned when it decided to break the mold and started casting customized concrete products six years

ago. Knowing that about 90% of all projects incorporate cast-in-place concrete, Kirby O'Malley, president of the Wall Township, N.J.-based manufacturer, reasoned that a double-digit increase in his precast output represents a small amount of the cast-in-place concrete industry.

"If we can increase our market share by 10%, it just reduces everyone else by 1%," O'Malley said. "We've been around long enough to know that 1% erosion doesn't amount to much for our competition in the market. So why not go where the real opportunities are?"

The fact that many standard precast products are commoditized was also pushing Garden State Precast to explore its diversification options. O'Malley counted 21 different companies offering standard precast products in his local market.

"That's a lot of competition," he said. "A commodity item fetches a commodity price, but a custom piece gets a custom price. When you compete with commodity items, you're up against other precasters.

"But when you compete against a custom product that's been drawn for cast-in-place, your competition is actually the cast-in-place industry."

Tired of beating themselves up over lost bids – and realizing that all contractors know the price of standard precast products – Garden State's team added custom products to its lineup. It required expanding an existing 100,000-pound craneway to three times its size, adding more quality control employees and hiring engineers to manage the design process.

"We had to gear up our QC and engineering, and get our head of engineering certified in cranes and lifting and everything else that's involved with picking up and handling a much larger product," O'Malley said.

Garden State works closely with an outside trucking company that has its own specialty equipment to ensure a smooth delivery process. For example, at press time, the company was delivering 20 custom pieces that weighed about 80,000 pounds each. The delivery window was just two days, and required a number of different cranes and other types of equipment.

"This is just one example of the specific details you have to pay attention to when you make large custom precast units," said O'Malley, who estimates that roughly 50% of the firm's projects now incorporate precast replacement for previously cast-in-place jobs. "There's a lot more coordination, as opposed to just loading a normal precast product onto a truck."

Three years ago, company veteran Paul Heidt was promoted from engineering manager to vice president of specialty precast. His sole responsibility is to oversee projects the company can convert from cast-in-place to precast – a move that

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Norwalk Concrete Industries manufactured a junction manhole, which was originally intended to be cast-in-place in Columbus, Ohio.

helps the manufacturer enhance its traditional revenues while also exposing it to new opportunities.

Acknowledging that any major business shift can be scary, especially for the first few products, O'Malley tells other precasters to explore their options in today's competitive marketplace.

"[Competing with] cast-in-place is more profitable as long as you don't mess it up," O'Malley said. "But if you don't do it the right way, you'll lose your shirt."

## STAYING OUT OF THE RACE TO THE BOTTOM

Garden State Precast isn't alone in its desire to branch out, enhance its revenues and improve its bottom line. In fact, precasters nationwide are learning to compete by manufacturing custom products versus manufacturing solely commodity products.

"Commodity products are a race to the bottom," said leadership and business strategy expert Heidi Pozzo, president at Pozzo Consulting in



Photo courtesy of Norwalk Concrete Industries

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Manufacturing custom products can help precasters become more relevant, bid on more jobs and boost their bottom lines.

To avoid getting into this race, she tells manufacturers to drill down to discover their customers' key pain points, and then try to solve those issues. In some cases, a standard precast concrete product can do the trick. In other situations, a custom product could be a better option.

By expanding a product line to include more of those choices, a precaster can become more relevant on more jobs while also expanding its customer base and its own revenue base.

"Get out into the field and watch your products being installed and talk to the people who are installing them," Pozzo said. "You'll likely find a pain point in either how the installation takes place, how you can upgrade the products, or the role that precast can play in items that aren't being precast right now."

The latter point hits home for John Lendrum, president at Norwalk Concrete Industries in Norwalk, Ohio. In fact, he sees product line diversification as the perfect segue for precasters that want to offer precast as a viable alternative to other materials.

He tells precasters not to be afraid of a cast-in-place specification. If precast is a viable option, submit it as a voluntary alternate and emphasize its advantages.

"The precast advantage is lower installed cost, increased speed of erection, limiting job site safety hazards with open excavations, and the flexibility that it gives a contractor," Lendrum said. "Most plant-produced concrete is done at a lower per-unit cost than job site labor wages, so by the time you do the additional engineering, build the product and ship it to the job site, a lot of times you could have an in-place cost that's lower than cast-in-place."

Obviously not every cast-in-place project can become precast, but Lendrum said many of them can. The problem is that designers haven't been exposed to precast.

"They went to school where they used cast-in-place in design, and they just figure that certain projects are just too big to precast," Lendrum said. "They don't really stop and look at how they can use multiple pieces."

When it comes to getting out of the "race to the bottom" on the commodity side of the concrete manufacturing industry, Lendrum

said that as a general rule, profit margins are going to be higher on specialty products versus standard products anyone can make. With this in mind, he tells companies to seek out opportunities that produce better returns and higher margins, and help to boost the bottom line.

“If you have the choice of making a product with a higher profit margin versus a commodity product like a septic tank or a set of steps then you have the ability to get in there and make a little more per yard produced,” Lendrum said.

## LOOK BEFORE YOU LEAP

To stay in business, manufacturers across all sectors have to consider strategies that improve revenues on existing products while also diversifying into new markets with either new or existing products. Using a viable product diversification strategy that breaks out of the “commodity mold,” those manufacturers can compete more effectively, grow their sales with existing customers and open up avenues to entirely new customer bases.

Before jumping in, Pozzo tells precasters to define their objectives, choose an approach, hire and train the right experts, and evaluate the potential risks. Remember that all new innovations came about because of a customer need – including precast itself.

“Precast wasn’t always there; it came about because of a need,” Pozzo said. “That means it’s either going to evolve or something else is

going to come along that will displace it. When you start to see a lot of consolidation and commoditization, that sector is probably getting ready to be disrupted.”

Tom Heraty, vice president of sales and engineering at Utility Concrete Products in Morris, Ill., said diversification is important because public projects don’t necessarily fall in line with private work.

“Being in both markets can help when one of the two is slow,” said Heraty, noting that the current funding levels for infrastructure from the local, state and federal government are yet another reason to diversify into new markets and products.

“That increases the importance of having products in a market that is not tied to the public sector,” said Heraty, who tells precasters to use National Precast Concrete Association and other resources to learn what products are being made around the country.

“Plan ahead and be cautious when estimating new products since there will be an inevitable learning curve,” Heraty said. “Each new product can open doors to more opportunities, but new products also require new processes.” **PI**

*Bridget McCrea is a freelance writer who covers manufacturing, industry and technology. She is a winner of the Florida Magazine Association’s Gold Award for best trade-technical feature statewide.*



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# Overhead Cranes and Suspended Loads Standards:

Is Your Company Up to Speed?

By Eric Carleton, P.E.





**P**recast concrete operations require heavy lifting. It's what we do. This might include stripping steel formwork, transporting a full bucket of fresh concrete to be poured, or moving a massive precast concrete product from one side of the plant to the other or out to the yard. Because these are heavy lifts, it is imperative plant management and supervisors have specific safety rules and policies in place to limit the risks involved with suspended loads.

The Occupational Safety and Health Administration has developed different regulations for a variety of product handling and moving operations that the precast industry should fully understand. With myriad OSHA crane standards, there can be some confusion on which provision may apply to plant operations. The primary OSHA standard regulation detailing overhead crane operation and safe suspended load operation falls under the general industry standard 1910 in Title 29 of the Code of Federal Regulations, "Occupational Safety and Health Standards," Subpart N, "Materials Handling and Storage," specifically section 29 CFR 1910.179, "Overhead and Gantry Cranes."

As defined within the standard 1910.179(a)(1): "A crane is a machine for lifting and lowering a load and moving it horizontally, with the hoisting mechanism an integral part of the machine. Cranes whether fixed or mobile are driven manually or by power."

In addition, the standard states that an "overhead crane means a crane with a movable bridge carrying a movable or fixed hoisting mechanism and traveling on an overhead fixed runway structure."

There are additional standards regarding truck or track cranes with a rotating superstructure and a boom, but this article will focus on overhead cranes.

OSHA has another section related specifically to construction activities, namely section 1926 in Title 29 of the Code of Federal Regulations (29 CFR 1926). Section 1926.1401, "Definitions," states: "Overhead and gantry cranes includes overhead/bridge cranes, semigantry, cantilever gantry, wall cranes, storage bridge cranes, launching gantry cranes, and similar equipment, irrespective of whether it travels on tracks, wheels, or other means."

The general industry standard (29 CFR 1910) describes fixed overhead cranes while the construction standard (29 CFR 1926) describes mobile overhead cranes.

Although precast plant operations fall under the general industry standard, there are many provisions in 1926 Subpart CC that provide excellent guidance and more detail about overhead crane safety than 1910.179. Though provisions within section 1926 Subpart CC may not be enforced for an industry application, such as operator certification, other pertinent provisions could be applied under the all-encompassing OSHA General Duty clause in the actual Occupational Safety and Health Act of 1970. It states: "Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."

The clause is important because it can be used to cite an employer even when there is no standard. However, there is a provision that the hazard must be recognized by the employer. OSHA states that recognition of a hazard can be established by the employer, by the industry or by common sense.

To ensure OSHA compliance, and more importantly to maximize employee safety, it is important for management to fully understand the

overhead crane provisions in section 1926 Subpart CC and implement them in the company's safety plan with appropriate language and training.

### **What if your operation only uses fork trucks for lifting and moving product?**

Though it is true general fork truck operations fall under the OSHA standard 1910.178, "Powered Industrial Trucks," if an operator uses a factory-made or plant-made boom with a hook, chain or sling attachment then the lifting action has been defined within OSHA as a crane activity and falls under the corresponding crane requirements. An interpretation of this is on an OSHA Frequently Asked Questions webpage.<sup>1</sup>

### **When is using a forklift required to comply with the cranes standard?**

Equipment that is designed to function as both a crane and a forklift is considered multi-purpose equipment and covered by the cranes standard when configured to hoist, lower (by means of a winch or hook) and horizontally move a suspended load. However, OSHA intends to propose amendments to the crane standard that will clarify that forklifts are excluded from coverage by the standard unless they are equipped with a boom/jib and a hoist and used like a crane.

Therefore, it is important to include an explanation of OSHA section 1910 and 1926 provisions on overhead crane use and operation in your plant safety plan.

## **CRANE OPERATOR TRAINING**

Proper safety training is a paramount element. When working with suspended loads, training can be lifesaving and should include everyone in the plant. Routine training helps to alert staff about overhead dangers, such as typical travel zones of the suspended loads, and develops a situational awareness mentality of the safety risks around workers when they are doing their normal tasks. There is one important difference between the two OSHA standards for crane operator training. Both specify that only company-designated individuals are permitted to operate an overhead crane (or any crane). However, on a construction site, the designated person must be trained by the employer and then certified from an acceptable national program as described in OSHA 1926.1427(c). Although operator certification is not required within the industry standard, the employer is required to understand the complexities of code language, or how one word or sentence can direct to another provision. This allows the OSHA standard to reference and direct the reader to other private or public codes and standards which must be understood and enforced.

With regard to the precast companies' designated crane operator(s), section 1910.179(b)(8) states, "only designated personnel shall be permitted to operate a crane covered by this section." Designated personnel is defined to mean "selected or assigned by the employer or the employer's representative as being qualified to perform specific duties." In 1999, an OSHA standards interpretation letter defined designated at 1910.179(a)(35) as: Selected or assigned by the employer or the employer's representative as being qualified to perform specific duties. The key word within the sentence is "qualified."

Because the term "qualified" is not itself defined, OSHA would

interpret qualified in light of operator-qualifications provisions of industry standards such as ANSI B30.2 (“Gantry Cranes Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist”). Although the 1910.178 training requirements do not apply, you may also find it useful to consult that standard when developing a training or evaluation program for travel lift operators.<sup>2</sup>

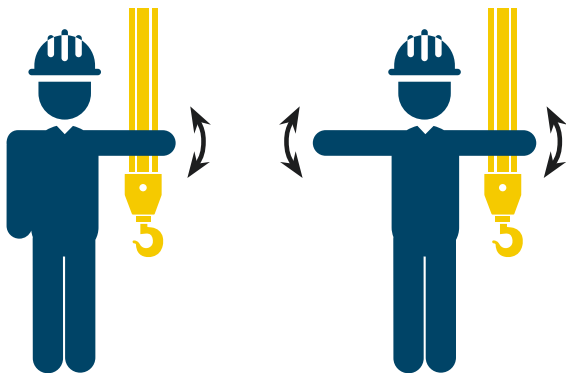
In determining the training, education and qualifications of the designated crane operator, the provisions in the construction specification (excluding a required certification) could be used. But precasters must also be aware of specific regulations required by the state or province where the work is being done. OSHA regulations represent a national minimum requirement. However, each state can reference 1910.179 and add more stringent requirements in their jurisdiction or enact their own unique crane safety requirements as long as the requirements are not less stringent than the current OSHA code.

For example, Michigan’s Department of Licensing and Regulatory Affairs issued its own unique crane standard, “General Industry Safety and Health Standard, Part 18 Overhead and Gantry Cranes.”<sup>3</sup> Other states with unique industry crane regulations include California, Kentucky, Minnesota, Oregon, Utah and Washington.

## RIGGER TRAINING

Another important plant position involved in overhead load safety is the rigger. This person is responsible for ensuring proper connection of the hoisting device to item being lifted. Like the crane operator, there is an expectation by regulators that this person should be designated, hence qualified, for that critical function of safe overhead lifting.

The rigger may be the person responsible for assisting the crane operator to direct the load, keeping a clear path or using taglines to help position the load. If this is the case, the rigger needs to be trained to use the standard crane movement hand signals described in ANSI B30.2 or other lifting guides. In many precast plants, the crane operator has a remote control and can operate the crane on the production floor without the need for a specific signal person. However, during a hoist and overhead movement, safety experts agree that all employees in the vicinity of the lift must be trained to know the stop or emergency stop signal and have the authority to use it when they perceive an unsafe condition. ANSI B30.2 section 2-3.1.7, “Conduct of Operators,” states: “The operator shall obey a stop signal at all times, no matter who gives it.”



OSHA’s standard hand signals stop (left) and emergency stop (right).



Many crane operators can operate the crane on the production floor without the need for a specific signal person by using a remote control.

In addition, the rigger can add another valuable set of eyes to identify worn or dangerous lifting equipment during the mandatory daily or written monthly inspections of the crane and its components. More rigger training information can be found on [precast.org](http://precast.org) in, “A Beginner’s Guide to Lifting Devices.”<sup>4</sup>

## KNOWING THE SAFETY STANDARDS IS CRITICAL

Safety is everyone’s business. If your precast operation requires suspending loads, the regulations are clear that full understanding of the current national, state and even municipal crane operation regulations are needed to develop a comprehensive plan to assure best practices for a safe environment. If it has been a while since you took the time to read and review those best practices, the time to review them is now. **PI**

*Eric Carleton, P.E., is NPCA’s director of codes and standards. He is an ASTM Award of Merit recipient and currently serves as vice-chairman of ASTM C13, Concrete Pipe.*

### SUSPENDED LOAD RESOURCES:

- OSHA 1910.170 Subpart N, “Overhead and gantry cranes” <https://www.osha.gov/laws-regs/regulations/standardnumber/1910>
- OSHA 1926 Subpart CC, “Cranes & Derricks in Construction” <https://www.osha.gov/laws-regs/regulations/standardnumber/1926>
- OSHA 1910.184, “Slings” <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.184>
- ANSI B30.2-16, “Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)” <https://webstore.ansi.org/Standards/ASME/ASMEB302016>
- Canadian Standards Association B167-16, “Overhead cranes, gantry cranes, monorails, hoists, and jib cranes” [https://store.csagroup.org/ccrz\\_ProductDetails?viewState=DetailView&cartID=&portalUser=&store=&ccid=en\\_US&sku=B167-16](https://store.csagroup.org/ccrz_ProductDetails?viewState=DetailView&cartID=&portalUser=&store=&ccid=en_US&sku=B167-16)
- NPCA Guide to Plant Safety/Cranes <https://precast.org/safety/>
- CMAA 78-2014, “Standards and Guidelines for Professional Services Performed On Overhead and Traveling Cranes and Associated Hoisting Equipment (Revised 2015)” [https://www.techstreet.com/standards/cmaa-78-2014?product\\_id=1913230](https://www.techstreet.com/standards/cmaa-78-2014?product_id=1913230)
- CMAA 79-2012, “Crane Operators Manual” [https://www.techstreet.com/standards/cmaa-79-2012?product\\_id=1913231#jumps](https://www.techstreet.com/standards/cmaa-79-2012?product_id=1913231#jumps)
- OSHA National Alliances /Crane, Hoist and Monorail (CHM) / Products and Resources [https://www.osha.gov/dcspp/alliances/cmaa\\_hmi\\_mma/cmaa\\_hmi\\_mma.html#5B](https://www.osha.gov/dcspp/alliances/cmaa_hmi_mma/cmaa_hmi_mma.html#5B)

### REFERENCES:

- 1 <https://www.osha.gov/cranes-derricks/faq.html>
- 2 <https://www.osha.gov/laws-regs/standardinterpretations/1999-11-08>
- 3 [https://www.michigan.gov/documents/CIS\\_WSH\\_stdpt18\\_35537\\_7.pdf](https://www.michigan.gov/documents/CIS_WSH_stdpt18_35537_7.pdf)
- 4 <https://precast.org/2016/07/beginners-guide-lifting-devices/>

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Allied Concrete Products celebrated its 70th business anniversary in 2018 and spans four generations.



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# The Allied Family

By Kirk Stelsel, CAE



**W**hen Shiloh Garies, Esta Setter, Judy Furey and Kathy Maguire reminisce about their parents, Barney and Rosemarie Maguire, the memories flood the room with laughter and smiles.

These four sisters are the foremost authorities on the early years of Allied Concrete Products, the company their parents founded. As they think back, they remember how their father “always wanted to start a business of his own” and how he “couldn’t have started it without mom.”

A typesetter by trade, Barney’s goal came to fruition after a trip to California where he picked up the Kansas City-area license for a BBQ and incinerator system. Back then, yards were often outfitted with both. What started as a business out of the family’s basement has endured to third-generation ownership and fourth-generation involvement. The company also celebrated a milestone business anniversary of 70 years in 2018.

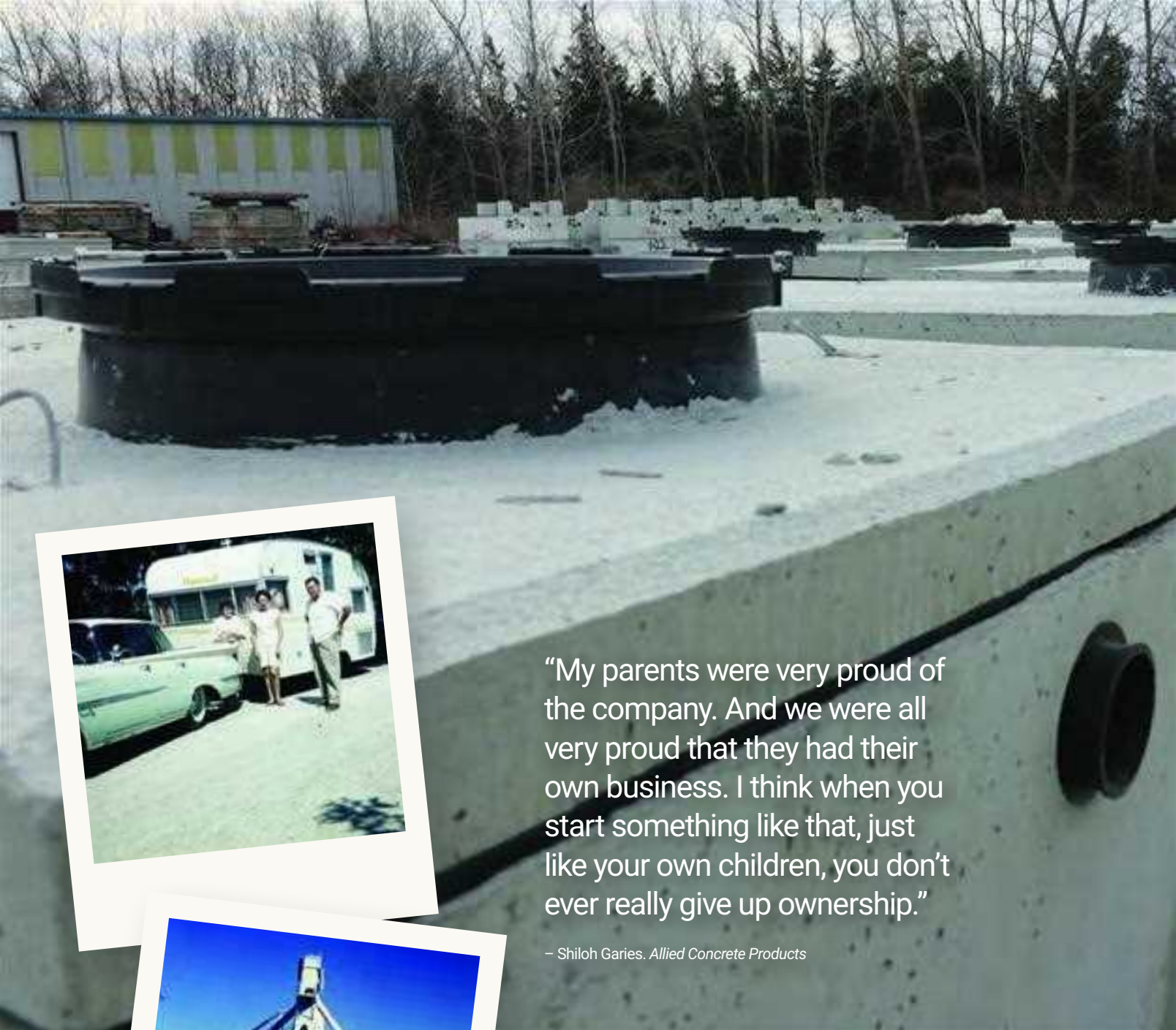
## **MAKING THE GRADE BELOW GRADE**

As Judy remembers it, the family set off to California with their trailer in tow and camped their way across the country. The six-week journey netted not only priceless memories but the franchise license that would serve as the genesis for the family company.

Once back home, the Maguires eased into the business. In fact, it wasn’t even Barney’s full-time gig when he started out. He made concrete products during the day and remained a typesetter at night to ensure he could provide for his family.

The company’s first products were BBQs and incinerators, which the family made good use of themselves.

*Photos provided by Allied Concrete Products*



“My parents were very proud of the company. And we were all very proud that they had their own business. I think when you start something like that, just like your own children, you don’t ever really give up ownership.”

– Shiloh Garies, *Allied Concrete Products*



Top: A family road trip to California was the genesis for the company. Bottom: The company’s first plant.

*Photos provided by Allied Concrete Products*

Production was done in the family’s basement, including pouring the products using sack cement, applying the exterior patterns and painting the metal components.

To this day, none of his daughters can figure out why Barney chose concrete given his background in typesetting and his family make up.

“Everybody thinks it’s very funny that Barney opened a concrete company, and he has four daughters,” Judy said. “He was looking for a franchise of some kind and probably found this in a magazine and that led him down that road.”

“He could have gone with dressmaking or something, but concrete...” Esta chimed in, her emphasis on the word concrete, which led to an eruption of laughter from the room.

Whatever the reason, the decision stuck. The company, then under a different name, sold its products not only out of the side yard of the family home but eventually at top stores in the area such as Sears and Montgomery Wards. Some models were stand-alone, while others had the incinerator in the back and the



NPCA file photo



Barney Macguire (front row left in chair) at the 1968 NPCA Convention in Buffalo.

# A Precast Village

They say it takes a village to raise a child, and the same can be said of fledgling industries. Such was the state of the precast concrete industry as it picked up steam in North America around the mid-20th century. As precasters added product lines, refined their processes and production methods and focused on ways to increase quality, they saw the need to self-assemble.

The result was the formation of the National Precast Concrete Association, and Barney and Rosemarie Maguire were members from the get-go. The company's membership dates back to 1966, the second year of operation for NPCA. The first meeting they attended, the 1968 Convention held in Buffalo, was the beginning of lifelong friendships and shared experiences.

"My parents always went to the NPCA Convention with the same group, and they went on trips afterwards," Shiloh said. "And many of those people remained their friends forever – the Barbours, the Lindsays, the Babberts, the Wiesers, Gaspersons and many more."

"That was a big part of mom and dad's social life – to go to those meetings," Judy added. "I can remember them talking about the first Convention they went to, and how E.C. Babbert used to sing, 'I'm going to Kansas City,' at every Convention as mother danced with him. Those people were some of their best friends."

The local connection for the Maguires was the Barbour family, owners of Barbour Concrete just a half hour to the northeast. The two families joined the association around the same time and had not only the common tie of precast to bond them but the establishment of the the precast industry in the Kansas City area.

"They always learned a lot from each other," Pete said. "Jim Barbour and grandpa always remained friends and if there was something that we didn't do, we'd recommend them, and they would do the same for us."

BBQ in front. As time went on, the company took on the Allied Concrete moniker it bears today.

The three eldest daughters remember going down to the basement in the evenings to paint doors by hand and press on the pieces that showed the patterns. The trip down memory lane also dredged up Judy's embarrassment of being dropped off at school in the company's delivery truck.

"That embarrassed me to death, so I made him drop me off at the top of the hill, and I walked in from there," she said with a big smile on her face.

As the operation grew, so did the need for space. In 1952, Barney and Rosemarie built the family's first plant. At the start, everything was still manufactured by hand. The workers used bridge cranes on pulley systems they operated manually, and mixed bagged concrete prior to making the transition to a batching system. It grew twice



Left to right: Sisters Shiloh Garies, Esta Setter, Judy Furey and Kathy Maguire

NFCA file photo

at that location before the government moved them to the company's current location due to persistent flooding from a nearby river.

"The joke I always heard was when the truck with the cement showed up, you couldn't find anybody," said Pete Furey, Judy Furey's son who now manages the business.

As the industry and company evolved, Barney added a 1964 Prashak mixer that not only still stands in the company's current location, but is fully operational next to a much newer batching and mixing configuration installed by Mixer Systems roughly four years back.

The additional space, Barney's drive for innovation, along with the advent of Weber grills and Kansas City's banning of incinerators, eventually led to a new product line, a 500-gallon tank, that put the company on its current trajectory.

## INNOVATION REQUIRED

One thing Barney was never accused of being in his life was complacent, and he brought that mindset to his company every day. It's a skillset every small business owner must bring to the table, especially when the company is young. Whether it was tweaks to the plant, production practices or adding new product lines, his mind was always thinking two steps ahead. Kathy described him as a "voracious reader," and said after he read something that intrigued him, he would think it through and then figure out how to implement it in his business.

One example that has paid dividends for decades was placing a plate with the company's name into the form for its parking blocks,

putting a logo on every piece. While it was a minor change in terms of physically placing the plates in the forms, the name recognition it generated was far more significant. Pete said they still get calls to this day from that product line, and not always just for parking blocks.

"That story about him thinking to get a name plate and imprinting the name on the curb was his mantra and his claim to success," Kathy said. "He was such a forward thinker and entrepreneur."

Later in his career, he worked in tandem with his son-in-law and grandsons to add product lines such as fencing. Allied has now installed more than 30,000 feet in the Kansas City area. The company also started doing specialty products as it evolved, some of which have transcended the generations.

For example, Barney manufactured roof channel slabs for a power plant before Pete was involved. The only reason Pete knew about the project was from finding the forms while doing an inventory count. Roughly 33 years after the original slabs had been installed, a contractor called Pete saying his boss knew Allied had made the original product and they needed more. The plant had an explosion and needed to replace more than 80 slabs. With the forms still on hand, Allied poured new products to replace the damaged slabs.

"We've never been afraid to try new things," Pete said. "We had to get versatile, so we do stair treads and other specialty items like sound walls and signs that allow us to be productive when we're slow in one area. That's one of the nice things about the construction industry, there's always another avenue somewhere and you may not see it right away but after a while it shows itself."

Today, the product line is heavily focused on wastewater products,



including aeration tanks, septic tanks, holding tanks, cisterns and grease interceptors. The company takes great pride in the aeration tanks it manufactures for Norweco, up to a 1,500-gallon-per-day system, and has added forms in recent years to add capabilities and to meet a wide array of customer needs.

Pete is also keenly aware of the fact that community support of the company over the decades has been able to keep the business going for 70 years. To thank them, he finds ways to give back. One example is the company works with veteran-focused charities and donates tanks to pay them back for their service to the country.

Although Judy and her husband Mike were the family to take ownership in Allied Concrete, family is never far away, and the company is never far from the family's thoughts. Shiloh and Esta said to this day everyone down to their grandkids never passes a parking block without looking to see if it bears the Allied name. Kathy and Judy are also part owners of a sister company, Residential Sewage Treatment. Allied sells approximately 50% of the company's wastewater products to the sister company.

### **SURVIVE AND THRIVE**

Through the years, the family company has meant many things to many people. Barney and Rosemarie's daughters joke that summer jobs in the plant were the No. 1 instigator for kids, grandkids, cousins and



Fencing is one of the product lines the company has added over the years to diversify.

family friends to get their college degrees. For Barney and Rosemarie, it was a lifelong endeavor.

"They were very proud of the company," Shiloh said. "And we were all very proud that they had their own business. I think when you start something like that, just like your own children, you don't ever really give up ownership."

Pete said Barney and Rosemarie always found a way to keep their foot in the door to keep an eye on things. Judy, Mike and Pete

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were always happy to have them around, although sometimes it led to generational differences, which typically emerge after a handoff. Judy recalled one that still makes her laugh to this day.

“The office and the bathroom were one room,” Judy said. “There was a cutout in the wall where the phone sat so you could work from either side. After my husband took over, he built an office, a room next to the bathroom, and Barney was hysterical, saying, ‘Why do we need an office?’”

While Rosemarie passed away five years ago and Barney has been gone for 10, their presence is always felt. For Pete, the task at hand is to honor the company his grandfather built, and his father grew, while also pushing it forward into future. His son, Kyle, has been involved for a decade, and Pete hopes it will continue.

“In my ideal world, I’d hope that Allied can survive and thrive because it’s provided for our family for 70 years and I hope it can continue,” he said. “I think precast is unlimited in its potential. All the different products that are being produced out of precast is awesome.”

“The family is very honored and knows things like this don’t typically happen,” he added. “It’s a nice feeling that my mom and my aunts are here to take part in it.”

And with that the story had been told. The four sisters looked around the room and the knowing smiles and nods of agreement made one last appearance. The gestures conveyed everything – the pride, joy, bond and hope they all felt – without needing to say a single word. **PI**

*Kirk Stelsel, CAE, is NPCA's director of communication.*



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# Innovations, Demand Provide Energy for **The Precast Show**

**W**ith a healthy mix of longtime suppliers, newly consolidated companies and 51 new exhibitors, The Precast Show filled the Kentucky International Convention Center in Louisville Feb. 28 to March 2 with the latest equipment, services and technology for precast concrete manufacturers.

With more than 4,000 attendees, the trade show included a full slate of educational courses with topics ranging from production to executive management. Special events and collateral meetings were also held by the sponsoring associations. The packed schedule and heavily attended events signal an industry that is both healthy and thriving, according to Ty Gable, president of the National Precast Concrete Association, which sponsors the event along with the Precast/Prestressed Concrete Institute.

“Precast producers are, for the most part, extremely busy right now, and they are shopping for equipment, looking for new technology and ramping up for a strong construction season this year,” Gable said. “In addition to steady traffic on the trade show floor, we had strong attendance in our educational courses. That’s a sign that company owners are investing in their people to ensure they can continue to



Educational offerings held at The Precast Show included everything from selling and marketing precast concrete products to precast production challenges.

Master Precaster Class of 2019



## NPCA Plant Certification Anniversaries

### 25 YEARS

A.C. Miller Concrete Products Inc.,  
Spring City, PA

### 20 YEARS

Dura-Crete Inc., West Valley City, UT

work productively and safely while keeping up with the latest technology. The success of this year's event confirmed everything we've been hearing about the strength of the industry right now."

During the week, NPCA also announced its 2019-2020 class for Leadership NPCA, held a graduation ceremony for 41 Master Precasters and nine Leadership NPCA students from the 2018-19 class, and presented awards for plant certification, safety and sustainability. Student participation in The Precast Show continued to expand, with networking events, a student poster display and student design competition.

The Precast Show 2020 will be held at the Fort Worth Convention Center in Fort Worth, Texas, March 5-7. Visit [theprecastshow.org](http://theprecastshow.org) for details. **PI**

## Longtime NPCA President Ty Gable to Retire



Ty Gable

Ty Gable, president of the National Precast Concrete Association since 1994, has announced his retirement after nearly a quarter century at the helm of the Indianapolis-based trade association. NPCA represents more than 900 precast concrete manufacturing companies and suppliers to the industry in the U.S., Canada and 12 other countries.

Mike Hoffman, chairman of the NPCA Board of Directors, announced Gable's decision to retire after a career

that spans more than four decades in the construction industry.

"NPCA has grown dramatically during Ty's quarter century as our president," Hoffman said. "He has overseen the growth of the plant certification program from a handful of companies to nearly 400 certified plants. Our educational curriculum, the annual trade show, safety programs and all of NPCA's other resources have grown

dramatically during his time as president. And as a result, NPCA and the precast concrete industry have a much higher profile now than we did in 1994."

Gable launched *Precast Inc.* magazine, then known as *MC Magazine*, shortly after joining NPCA, with the first issue going to print in 1995. He wrote much of the magazine, secured commitments from NPCA Associate members for advertising and oversaw the design. His ultimate goal was to position NPCA as the voice of the precast concrete industry, a mission that continues to this day. In the early days of the Internet he bought the rights to the web domain address [precast.org](http://precast.org), which helped to position NPCA near the top of search engines.

Hoffman is chairing a search committee that includes NPCA members and executive search expert Cynthia Mills. The national search will continue through the year, with the introduction of the next president planned sometime in the fall.

"Ty will continue to serve full-time as NPCA's president through the year as we work to find a leader who will continue NPCA's upward trajectory in the years to come," Hoffman said. **PI**

## NPCA President Search

National Precast Concrete Association is seeking its next president. This high-profile executive leader will guide an experienced professional staff in the fast-paced environment of a national trade association. The successful candidate will have the vision and creativity to continue the growth and prosperity of an association with a long track record of innovative programming, a world-class trade show and the industry's largest certification program.

**To learn more or apply for this leadership opportunity, please review the documents on our careers webpage at [precast.org/careers](http://precast.org/careers). Applications are due May 17, 2019.**



The **NPCA Sustainability Awards** program recognizes member companies for contributing to sustainable construction projects and for instituting sustainable practices in their plants. NPCA presented four awards during a luncheon at The Precast Show 2019 in Louisville. Here are summaries of the winning projects.



**ASSOCIATE PLANT**

**Taylor Machine Works Inc.**  
Louisville, MS

***Production Facility Efficiency Improvements***

Taylor's push for a more sustainable plant resulted in many improvements that make its products and workplace stronger, safer and more efficient. The company moved to energy- and time-saving fiber laser technology to cut parts rather than traditional plasma cutters. The company also designed and built an innovative gantry-style dual bead sub-arc welder that eliminates slag and spatter, reduces clean-up time, reduces worker fatigue and greatly increases productivity. The induction heating innovation also eliminates large propane blower pre-heaters. Taylor also implemented LED lighting that saves more than \$4,600 per year and reduces eye strain and fatigue. In addition, a new generation solar array grid should pay for itself in four years but has an estimated lifespan of 25 to greatly offset the plant's energy needs.



**ASSOCIATE PRODUCT**

**Full Circle Water**  
St. Joseph, MN

***Water Recycling Solutions***

Full Circle Water developed the Slurry Silo for concrete producers who were looking for water recycling solutions. Using decanting technology and polymers for coagulating slurry to help it settle faster, the Slurry Silo became a solution that worked for both precast and ready-mixed concrete. As more concrete cutters and paver producers grappled with recycling their water, the Slurry Silo established itself as a capable stand-alone product or it can be paired with a filter press as part of a more comprehensive solution. The simple design, low maintenance component and affordability are added benefits appreciated by manufacturers.



**PRODUCER PLANT**

**Bates Precast Concrete Inc.**  
Lake Park, GA

***Sustainable Recycling***

Very little goes to waste at Bates Precast Concrete Inc. The company's extensive recycling measures include capturing and filtering their mixer truck washout water. The filtered water is recycled to dampen aggregate used in production. The washout is sold to contractors as driveway fill. Test cylinders and damaged concrete are also sold to contractors for fill. In addition, Bates has instituted extensive recycling of tires, cardboard and wooden pallets that has paid off in a safer yard. Thanks to the recycling efforts, costs for water, electricity, waste production and garbage removal have all decreased. With less clutter around the plant, safety has improved as well. The plant has logged more than 1,000 days without a recordable incident.



**PRODUCER PROJECT**


**H2 Pre-Cast Inc.**  
East Wenatchee, WA

**Wilbert Precast Inc.**  
Spokane, WA

***I-90 Animal Crossing***

Keeping both motorists and wildlife safe along the corridor between Seattle and Spokane has become a growing problem in the state as traffic has increased, particularly when elk are migrating. Thanks to the work of H2 Pre-cast and Wilbert Precast, elk and other wildlife no longer need to trek across a major highway, and motorists won't have to worry about coming face-to-face with a serious accident. H2 cast the arched sections that form twin tunnels and Wilbert created the wall to form a bridge over I-90 that the elk naturally migrate across without realizing there's a road below. The crossing is covered in vegetation to imitate the natural surroundings of the forest.

The project is the first of its kind in the state, and the state's department of transportation is looking at adding more wildlife crossings to ensure the safe passage of animals and commuters.

 For additional details, please visit [precast.org/awards](http://precast.org/awards)

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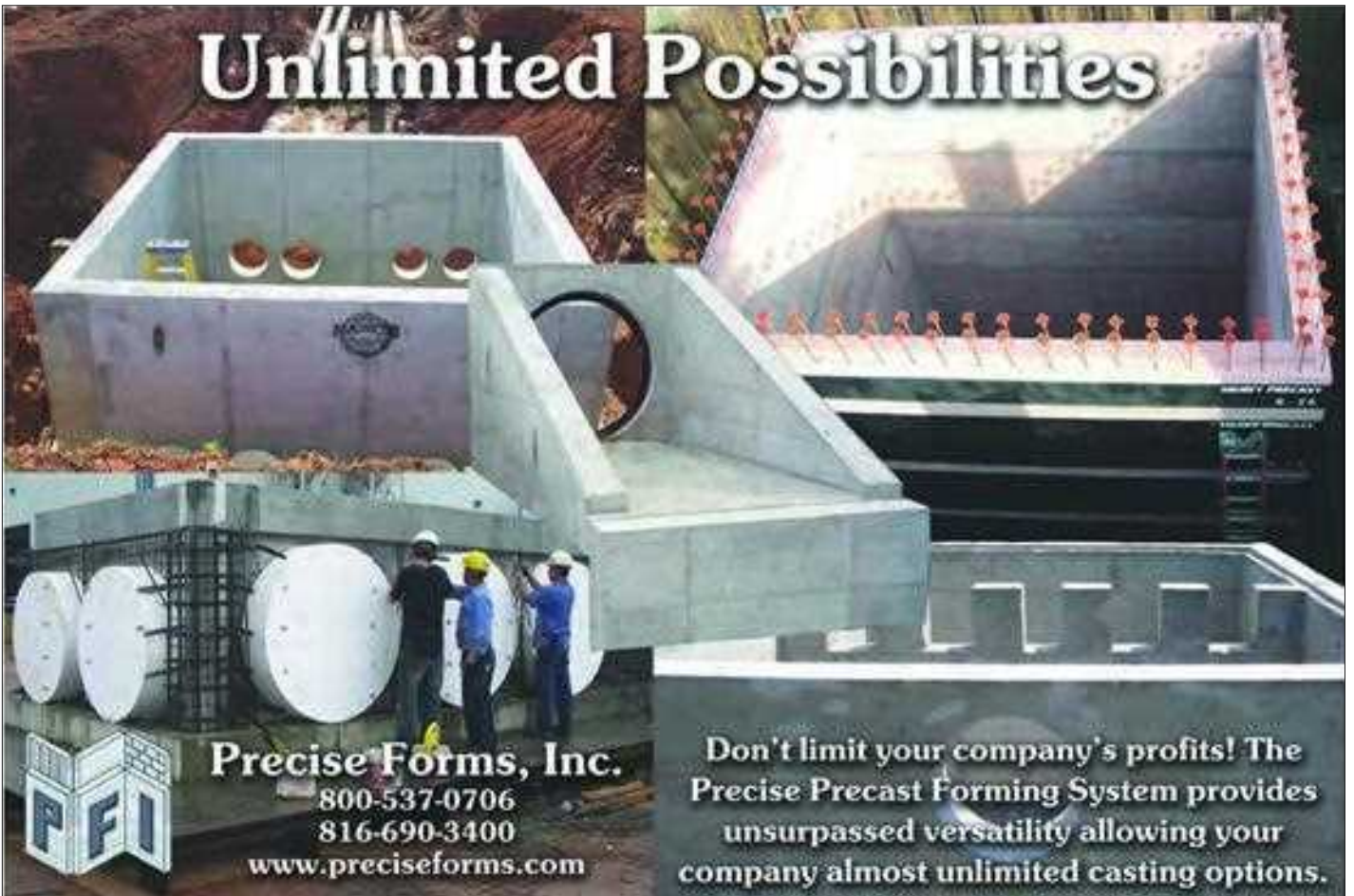
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# NPCA FOUNDATION WRAP-UP: Board Update, Student Competition



**N**etworking and outreach were key themes found at NPCA Foundation events at The Precast Show 2019 in Louisville. During the Foundation's Board of Directors meeting, the board heard from Mohammed Albahtiti, Ph.D., Amanda Muller and several students from California State University, Chico's Concrete Industry Management program. They updated the Board on the precast-specific course that Albahtiti developed for CSU, Chico using a grant from the Foundation. About 20 students are taking the course in Spring 2019, and it is now required for all CSU, Chico CIM students. Muller shared an update on a new lab the CIM program is developing and the need for donated equipment to outfit the lab. CSU, Chico CIM students Marlin McCain, Paige Silva and Giovanna Vera also spoke about their experience in the program and how attending The Precast Show helped them to broaden their knowledge about the concrete industry. In addition, Mustafa Marshal, Ph.D., from Idaho State University, updated the Board on the bridge and culvert studio program that is being jointly funded by the NPCA Foundation and PCI Foundation. Marshal explained the studio will consist of four individual semester-long programs focusing on bridges, culverts and seismic activity for these products, and, in addition to being available to students, the courses will also be open to department of transportation officials and specifiers. The studio program is scheduled to launch in the 2019-2020 academic year.

The Foundation also held a new student competition at The Precast Show. For the inaugural year, the competition was open to CIM schools. The New Jersey Institute of Technology and the CSU, Chico CIM programs both competed. The students were given a real-world project that had originally been specified as cast-in-place. The students were challenged to convert the project to precast, and consider all of the production, operational, safety, cost and logistical facets of the project. Both NJIT and CSU, Chico's teams presented viable solutions, leaving the judges with a difficult choice, but they ultimately selected CSU, Chico's team as the winner. As the winning team, CSU, Chico received \$2,000 for the students and a \$5,000 donation to their school program. NJIT won a \$1,200 prize for the students and \$4,000 for its school program.

The Foundation capped off its networking and outreach for the week with a student/member networking event on the trade show floor. This annual event links NPCA members with students and faculty from across the U.S. to discuss opportunities for plant tours, internships and careers in the precast concrete industry. **PI**

Above: California State University, Chico's Concrete Industry Management students won NPCA Foundation's inaugural student design competition held at The Precast Show.

Above Left: NPCA members networked at The Precast Show with students who are interested in construction management, engineering and other related professions.



To learn more about the Foundation, visit  
[precast.org/foundation](https://precast.org/foundation)

# Little Space in Little Italy:

## ALL Crane collaborates on condo build in tight quarters

Cleveland's Little Italy is a close-knit, historic community. When a 75-ton capacity crane shows up—and starts winding through tight alleyways—people take notice. Such was the scene when a new residential construction project began last summer.

A new multi-unit residential complex was planned for a 3/4-acre lot, with limited road access and close neighbors. Cranes and other construction equipment had to travel down an alley just 15 feet wide, make a 90-degree turn to the job site, and then traverse a 30 percent grade through an 18-foot opening down into a hole dug for foundation work and a parking level.

The general contractor, Pride One, hired Mack Industries to provide precast concrete for the job. Mack, in turn, contracted with ALL Erection & Crane Rental of Cleveland, a member of the ALL Family of Companies, to provide the cranes for setting the concrete. It was a partnership that paid off for everyone involved in the project.

ALL Crane provided several cranes for the job, with a 75-USL Link-Belt TCC-750 telecrawler doing the bulk of the work. "Any other crane would have been too large to assemble on-site," said Brian Meek, equipment specialist for ALL Crane. "There wasn't room to assemble the boom for a conventional lattice crawler, and we didn't feel a large rough-terrain crane would be productive because its positioning could impede the access of other construction vehicles."

In addition to Meek, another key player in the project was Resita Hamm, a project manager for Mack Industries. She spent countless hours on a plan that



sequenced every lift, color-coded and in order, so crews knew which pieces to set, when to set them, how much counterweight was needed, and, within inches, where the crane had to be positioned to accomplish each task with appropriate swing.

"In a space this tight, if you start randomly setting beams, soon you'll have built yourself into a corner," said Hamm. "The thought was to break each pick into quadrants. Install hollowcore floors, put beams and plank above, then review boom interference and ask, 'How far can I reach before I start hitting product I've already installed?'"

Using Hamm's plan, the TCC-750 set precast concrete beams, mostly ranging in weight from 10,000 pounds to 20,000 pounds (the largest was 55,000 pounds and measured 40 feet across).

As the project progressed and space became even narrower, sequencing of lifts became even more important. With assistance from ALL Crane's crawler division, the team determined an exit point for the TCC-750 and planned the steps for walking it out from the now-nearly enclosed subterranean space to close out the structure.

"It was a satisfying project," said Meek. "It allowed us to use many tools in our toolbox—sourcing the right crane for the right job, collaborating, and lending our crane expertise to a successful job."

An enduring image from the project? The TCC-750 with an Italian flag hanging from its boom. "We wanted the neighborhood to know we respected the history and appreciated their accommodation as we built these new homes."

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# Working For You

## Keeping up with Industry Codes and Standards

The National Precast Concrete Association works for you by monitoring and participating in codes and standards groups that impact the precast industry. Eric Carleton, P.E., NPCA's director of codes and standards, has spent significant time networking with industry leaders, groups and professionals, and staying in touch with the latest industry innovations at noteworthy codes and standards events.

Earlier this year, Carleton traveled to Washington, D.C., to participate in the 2019 Annual Transportation Research Board Meeting. While there he participated in the meeting as a member of committee AFS40 Subsurface Soil-Structure Interaction and monitored the activities of committees AFF70 Culverts and Hydraulic Structures, AFN20 Properties of Concrete, AFN30

Durability of Concrete, and the AFF00 subcommittee on Accelerated Bridge Construction. Additionally, he attended a workshop on the Federal Highway Administration's Accelerated Bridge Construction SHRP 2 R04 toolkit. The meeting was well attended by more than 12,000 policy makers, administrators, practitioners, researchers, and representatives of government, industry and academia.

Carleton also traveled to San Diego, Calif., for the Strategic Development Council's Technology Spring Forum 45. The SDC, an entity of the American Concrete Institute Foundation, conducts two forums per year, at which new technologies are showcased and innovators can request additional project funding from the ACI Foundation.

During the Spring forum, Carleton attended education sessions on topics such as:

- ▶ **Unexpected 100 ksi tensile steel rebar cracking**
- ▶ **Changing the sustainability dialog to include resiliency based on long term use and application of the built environment in an unstable environment**
- ▶ **Methods to better quantify the carbon footprint of construction materials used for sustainability building requirements and EPD applications on the West Coast**
- ▶ **Developing employee safety training using virtual reality methods**

Hot discussion topics among attendees included ACI code committee revisions to the 318 Structural Building Code and the code revision cycle process.

NPCA participation in codes and standards events is a way for the association to connect with decision makers and gain insight on industry challenges, trends, innovations and much more.

"Attendance at these forums provides the opportunity for NPCA to network with the leaders and forward thinkers of the concrete industry and for NPCA to be informed of coming trends or technology," Carleton said.

Looking ahead, NPCA has committed to attend the SDC Fall Technology Forum 46 titled, "Concrete 2029," which will take place in Pittsburgh, Pa., on August 27-29. ▶



Eric Carleton, P.E.

NPCA file photo

# PEOPLE & PRODUCTS

**People & Products** is a forum where NPCA members and nonprofit organizations can share information on new products, personnel promotions, acquisitions or service announcements concerning the precast concrete industry. Items are printed on a space-available basis.

For possible inclusion, send your press releases and photos to [sgeer@precast.org](mailto:sgeer@precast.org).

## Afinitas Announces Leadership Changes



Dave Stoller



Aaron Schmidgall



Dave Strabala



Derek Von Cannon

Afinitas announced several organizational changes effective April 1, 2019.

Dave Stoller has been named global vice president of engineering for Afinitas. He will lead engineering activities across the entire Afinitas platform with an emphasis on driving innovation to meet the changing needs of the pipe and precast industry. Stoller has 30 years with Hawkeye Pedershaab-BFS, the dry-cast division of Afinitas.

Aaron Schmidgall has been named president of CAM Products, the newly created concrete accessory products division of Afinitas. He succeeds Jim Wright, a 30-year veteran of the reinforced concrete industry and former owner and CEO of CAM Sales, who will continue with the business as executive vice president. Schmidgall will set the strategy and vision for CAM Sales, while overseeing day-to-day operations. A 25-year

veteran of HawkeyePedershaab-BFS, he has held many leadership roles within the company, including CFO and COO.

Dave Strabala has been named vice president of sales for CAM Products. Strabala, who has been with Hawkeye Pedershaab-BFS for 13 years, will be responsible for managing global sales strategy and activities for the division.

Derek Von Cannon has been named vice president of sales for the Afinitas wet-cast division, which includes the newly combined New Hampton Metal Fab and Spillman Company product lines. He will oversee the activities of the wet-cast division sales team and develop strategies to extend the division's reach and better serve customers.

"We are extremely proud of the individuals who have been appointed to these leadership roles," said Brad Schmidgall, CEO of Afinitas. "Their experience, energy and dedication to serving customers and fostering innovation will serve us well as we continue to build offerings that will enrich the industry and provide opportunities for our employees."

## Concrete Sealants Adds New Sales Representative



Pat Voinis

Voinis earned a bachelor's degree in business administration at The University

Concrete Sealants announced the addition of Pat Voinis to its field sales staff as an independent sales representative. Voinis has more than 30 years of experience in the concrete pipe and precast concrete industries.

Voinis earned a bachelor's degree in business administration at The University

of Texas at Austin and enjoys fishing, golf, college sports and traveling abroad.

## Vacuworx Adds New Members to North American Sales Team



Jeff Baldwin



Kevin Harvey

Vacuworx announced the expansion of its North American sales force with the addition of three members.

Jeff Baldwin, with more than 20 years of experience in the sectors of oil and gas, construction, manufacturing and distribution, has been hired as regional sales manager. His responsibilities include working with Vacuworx

dealers and end users in both the pipeline and construction markets.

Kevin Harvey, with a 22-year background in the construction industry, has been hired as Northeast construction equipment sales manager. With an emphasis on construction-related applications, he is responsible for developing a strong dealer network and promoting new business opportunities.

Bernie Lailey, with more than 30 years of experience



Bernie Lailey

in the oil and gas and pipeline industries, has been hired as business director of Canada. Lailey has served as a board member and on the safety committee of the Pipe Line Contractors Association of Canada.

**Combilift Combi-PPT nominated for IFOY AWARD 2019**

Combilift has been nominated as a finalist for the International Intralogistics and Forklift Truck of the Year Award, which honors the best products and solutions of the year. The Combi-PPT powered pallet truck is one of



three products shortlisted by the jury in the warehouse truck category.

The competition will soon enter its second round and a jury of 29 journalists and

editors from leading logistics media across 19 countries and four continents will also personally test and evaluate the nominated equipment for qualities such as technology, design, ergonomics, safety, marketability, customer benefit and sustainability.

**Oldcastle Infrastructure Names Area General Managers**

Oldcastle Infrastructure announced two additions to the leadership in its West Region.

Sue Tanenbaum has joined as the area general manager for Northern California and Tony Whitt has joined as the area general manager for the newly combined Chandler/Southern California markets.

Tanenbaum has more than 17 years of leadership experience across multiple industries. She holds a bachelor's degree from Hampshire College in Amherst, Mass.

Whitt has more than 20 years of leadership experience across multiple industries and has served as a U.S. Army captain. He holds an

MBA from the University of Michigan, as well as a bachelor's degree in accounting from the University of Detroit.

**Suszek Named Besser President**



Ryan Suszek

Besser Company announced Ryan Suszek as president. Suszek assumed his new leadership position in April. Kevin Curtis remains as Besser's CEO.

Suszek's previous role as vice president of pipe and precast provided him with valuable leadership experience and a comprehensive knowledge of the concrete products industry. He has grown within the company and has worked closely with nearly every department and function over his 14-year career with Besser, as well as customers throughout the world. **PI**

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# CALENDAR OF EVENTS



**Oct. 3-5, 2019**  
**NPCA 54TH ANNUAL CONVENTION**  
 Hyatt Regency Seattle  
 Seattle, Wash.



**March 5-7, 2020**  
**THE PRECAST SHOW 2020**  
 Fort Worth Convention Center  
 Fort Worth, Texas



**Oct. 15-17, 2020**  
**NPCA 55TH ANNUAL CONVENTION**  
 Omni Amelia Island Resort  
 Amelia Island, Fla.



**Feb. 25-27, 2021**  
**THE PRECAST SHOW 2021**  
 Ernest N. Morial Convention Center  
 New Orleans, La.



For the most up-to-date information about NPCA events, visit [precast.org/meetings](https://precast.org/meetings)

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