QC MANUAL UPDATES + VIRTUAL CONVENTION WRAP-UP + LIMITING DEFECTS

PRECAST INC.®

A Publication of the National Precast Concrete Association | NOVEMBER/DECEMBER 2020

CHAIRMAN'S CHOICE:

UNFAZED

Columbia Precast Products

+

A CLOSER LOOK:
VISCOSITY-MODIFYING ADMIXTURES

WARRANTIES:
BUILDING A COMPETITIVE ADVANTAGE

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Columbia Precast Products

25 Ron Sparks, general manager of **Columbia Precast Products**, and his team derive tremendous satisfaction from responding to customer needs and generating solutions for even the most complex projects.

On the Cover:
Columbia Precast Products manufactured 1,600 floating slabs for a Sound Transit project.

Photo courtesy of Columbia Precast Products

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NPCA is the trade association representing manufacturers of industrial plant-produced concrete products and suppliers to the industry around the world.

CONNECT WITH US

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 posted on **precast.org**.

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

Adam writes:

We've recently had some trouble with inconsistency in our fresh concrete's air content (we use an air-entraining admixture) and are trying to figure out the cause. Do you have any advice on where to look first?

NPCA Technical Services engineers answered:

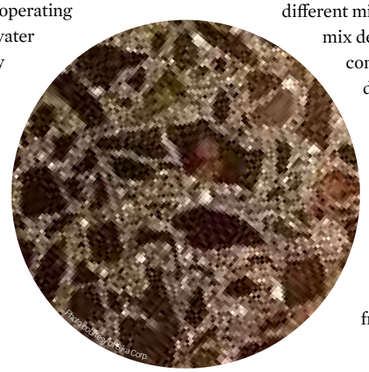
Remember that an air-entraining admixture is interacting with the cement paste, which consists of the cement, any supplementary cementitious materials (SCMs) and water.

We suggest examining the results of your air tests over time to pinpoint when fluctuations began and measuring the severity of those changes. Over that same time period, look at your cement mill certificates to verify you're receiving the same cement type each time. If your mill certificates are consistent, are you tracking the proportions of C_3A, C_3S, etc. from delivery to delivery? Sometimes, small changes in the phases of cement can affect concrete behavior, which is also true for any SCMs you are using, particularly fly ash.

If you are not operating on a municipal water supply, you likely have test data for your water source. Check this data for chemical variances in your water supply around the times you notice unexpected changes in air content.

Make sure your aggregate is consistently batched clean. Also check if your coarse aggregate is unusually dry due to hot weather conditions. Dry coarse aggregate when included within the batch can sometimes act like a sponge with admixtures, like air entrainment, absorbing them and not allowing them to do their chemistry magic.

Most importantly, work with your air-entraining admixture supplier throughout this process. Your supplier can troubleshoot and suggest adjustments to dosage rates of their particular admixture.



Dan writes:

If we ensure the concrete reaches the required compressive strength at 28 days, let's say 5,000 psi, why is M10, M15, M20 and M25 specified? Why are different proportions specified, as long as the concrete reaches the necessary strength?

NPCA Technical Services engineers answered:

M10, M15, M20, and M25 refer to different mix design proportions. Various mix designs can achieve 5,000 psi compressive strength using entirely different proportions of raw materials. It's important to not only ensure the concrete mix design will provide the necessary compressive strength, but also that the raw materials and the proportions in which they are batched into the mix provide the desired fresh and hardened concrete properties. The economy of the mix is another important consideration in proportioning.

Ensuring concrete reaches the minimum required compressive strength is not enough to ensure it will perform as required for the duration of its service life. A concrete mix could achieve 5,000 psi compressive strength but may not perform well in service because of the type, quantity or proportions in which the other raw materials are used.

For example, a mix could reach the required compressive strength while having a w/c ratio that's too high. This will make the concrete susceptible to watertightness and durability issues. It's possible a mix could reach the required compressive strength while using inappropriately sized aggregates, which could increase paste demand and thus the cost of the concrete, as well as create potential shrinkage-related issues. The mix proportions affect all fresh and hardened concrete properties, and compressive strength is only one of many important factors to consider. This necessitates defining specific mix proportions. **PI**

NPCA file photo

A Closer Look:

VISCOSITY-MODIFYING ADMIXTURES

By Kayla Hanson, P.E.

With their ability to support stable, cohesive concrete mixes, viscosity-modifying admixtures offer incredible utility in the precast industry.

Editor's Note: *This is the final article in a year-long series explaining common raw materials used in precast.*

What do concrete, shampoo and toothpaste have in common? They are all classified as non-Newtonian substances, meaning each material's viscosity – the resistance to deformation or how "thick" it is – varies depending on applied stresses. In other words, mixing, pouring or otherwise applying stresses to these substances can cause them to be more or less flowable.

Because fresh concrete is continuously exposed to applied stresses throughout its plastic state – including during mixing, transport, placement, consolidation and finishing – its viscosity, and the ease with which it flows, may be affected. Other fresh concrete characteristics may also be impacted. Fresh concrete's consistency, homogeneity, stability and cohesiveness all respond to stresses applied to the mix throughout the production process.

Self-consolidating concrete is more sensitive to these applied stresses than other mix designs. Due to its highly flowable nature and unique mix proportions, SCC is more susceptible to segregation – where the water and fines are inclined to separate from the rest of the mix – particularly during transport and placement. Viscosity-modifying admixtures can be used to combat this natural tendency and ensure a stable, cohesive mix from the time the concrete is discharged from the mixer until it sets.

WHAT ARE VMAS?

Viscosity-modifying admixtures (VMAs) are additives used to stabilize fresh concrete's homogeneity and consistency.

"VMAs are used for stabilization of the mix, but they do so by modifying the rheology," said Terry Harris, technical service director of GCP Applied Technologies.

VMAs increase the mix water's viscosity through a variety of mechanisms. By doing so, it impacts fresh concrete's rheological properties – how its flow characteristics change under applied stress. This includes plastic viscosity and yield stress.

ASTM C494, "Standard Specification for Chemical Admixtures for Concrete" categorizes VMAs as Type S admixtures. Type S admixtures affect specific aspects of concrete's performance or behavior and fall outside of the classifications of water-reducers, retarders or accelerators that are also outlined in ASTM C494.

COMPOSITION

VMAs are comprised of a wide range of chemistries. Some VMAs consist of fine, inorganic materials like colloidal silica while others are based on larger, more complex synthetic polymers like hydrophobically modified ethoxylated urethane (HEUR).[1] Most VMAs, however, consist of polymers – chains of large molecules containing many repeating units – made of polyethylene oxides, cellulose ethers, alginates, natural and synthetic gums, polyacrylamides or polyvinyl alcohol.[2]

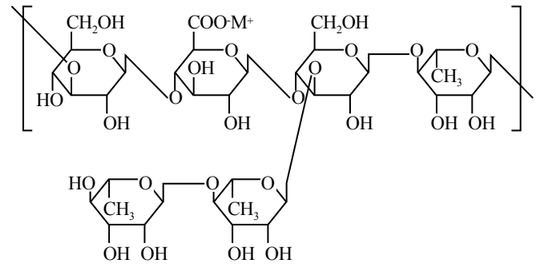


Figure 1: Chemical structure of diutan gum, a biopolymer used in some types of viscosity-modifying admixtures. The basic unit of the diutan structures is repeated 3,500 times to create a long polymer chain.[1]

IMPACT ON RHEOLOGICAL PROPERTIES

According to ACI 212.3R-16, "Report on Chemical Admixtures for Concrete," plastic viscosity is defined as the property of a material that resists change in the shape or arrangement of its elements during flow. A tangible example of viscosity differences is shown by comparing the flowability of traditional wet-cast concrete to that of SCC. Traditional wet-cast is more viscous or "thicker" and has limited flowability, whereas SCC is less viscous and highly flowable.

Plastic viscosity

The most significant contributor to SCC's flowability is the use of water-reducing admixtures. VMA use, in contrast, increases fresh concrete's viscosity, making it slightly less flowable. Despite causing the slight reduction in flowability, which may be seen initially as a drawback, VMAs' impact on viscosity results in more cohesive and stable concrete mixes that retain homogeneity and consistency.

Yield stress

Besides the obvious increase in plastic viscosity, VMAs can affect other rheological properties of fresh concrete as well. Fresh concrete's

yield stress – the amount of force required to cause the plastic concrete to flow – is another rheological property that can be impacted by VMAs. The impact of VMAs on yield stress can range from none to significant, depending on the type of VMA. VMAs that cause a significant increase in yield stress result in plastic concrete that requires significantly more force for the concrete to flow. Using a VMA that increases viscosity without impacting yield stress tends to be preferred for SCC applications.[2]

Thixotropy

Some non-Newtonian substances, like concrete, shampoo and toothpaste, also exhibit time-dependent thixotropic properties, which means they become less viscous when subjected to applied stress. Thixotropic non-Newtonian substances exhibit a progressive decrease in viscosity with time under constant shear stress. This behavior is also referred to as shear thinning. In the case of SCC treated with VMAs, when the mix begins to flow, the force of the flow causes the VMA molecules to align in the same direction as the flow. This action allows the paste to lubricate the aggregates, reduce the tendency of aggregate interlocking, reduce internal friction and enhance flowability.[2]

HOW VMAS WORK

VMAs are generally categorized as one of two types: thickening or binding. Thickening VMAs rely on the addition of large polymer molecules to the paste and increase viscosity through molecular obstruction. The thickened paste results in increased cohesion. Conversely, binding VMAs work by chemically combining with water molecules in the paste and producing a gel. The gel inhibits changes in viscosity caused by applied stresses throughout normal production practices, promoting thixotropic behavior.[3]

With most types of VMAs, including those that are diutan gum-based, when concrete is at rest, the VMA molecules form a network, as shown in Figure 2a. This network increases the fresh concrete's viscosity and inhibits segregation, preventing fines and mix water from separating from the bulk concrete. Under applied stresses, such as mixing, transport, placement and finishing, the VMA polymer chains align in parallel, as shown in Figure 2b. This disrupts the network of cement paste and aggregates and enhances the fresh concrete's flowability and thixotropy. When the concrete returns to rest, the network of VMA molecules is rebuilt, again resulting in increased viscosity and reduced likelihood for segregation, as shown in Figure 2c.[1]

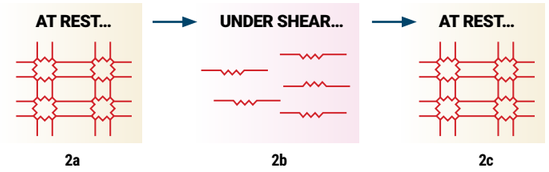


Figure 2: Example of viscosity-modifying admixture molecule behavior at rest and under applied stress.[1]

The impact of VMAs on fresh concrete properties and behavior is most significantly dictated by the source materials from which the VMAs are developed. However, even when sourced from some of the same base materials, VMA chemistry, dosage rate, performance and impacts on fresh concrete vary from one supplier to the next.

"They are not interchangeable," said Ara Jeknavorian, Ph.D., consultant at Jeknavorian Consulting Services and veteran research fellow and chemical admixture developer. "They are highly dependent upon source materials, and thus have different potencies. Welan gum is about 1/3 the potency of diutan gum, but diutan gum is available at a higher price."

APPLICATIONS

VMA use in precast concrete is especially prevalent for SCC applications, but precasters can also turn to VMAs in traditional wet-cast applications to enhance stability and retain consistency and slump over time. VMAs can also be used in dry-cast applications to resist segregation and improve surface finish, compaction and moisture retention. VMAs offer a wide range of benefits across other types of concreting applications, as shown in Table 1.

Table 1. Benefits of VMA use in various concreting applications.[1]

Concreting Application	VMA Benefits
Underwater Concrete	Prevent cement paste washout
Pumped Concrete	Reduce wall friction, aggregate interlocking and pumping pressure
Concrete with Gap-Graded and/or Manufactured Aggregates	Inhibit segregation; improve finishability
Pervious Concrete	Reduce paste-drain; increase strength through improved paste-aggregate bond
Lean Concrete	Improve finishability
Lightweight Concrete	Minimize flotation of lightweight aggregate particles; enhance stability and homogeneity
Shotcrete	Enhance cohesion; reduce rebound

MIX DESIGN CONSIDERATIONS

VMAs are primarily specified to increase concrete's plastic viscosity, improve cohesion, and enhance homogeneity and consistency. However, VMAs can offer other benefits. In some cases, VMA use may allow for a reduction in the fines content that would otherwise be used to improve fresh concrete's cohesion.

VMAs can also help accommodate challenging aggregates – like gap-graded aggregates or those with very rough textures or elongated shapes – which may otherwise decrease fresh concrete's flowability.

"A less obvious benefit from VMAs is their lubricating effect, whereby water and fines are more homogeneously maintained throughout the mix, thus coating rough aggregates surfaces and thereby reducing frictional forces," Jeknavorian said.

Additionally, VMAs tend to make SCC mixes more robust by increasing segregation resistance in response to small changes in mix water content.

FRESH CONCRETE CONSIDERATIONS

When VMAs are used in accordance with supplier recommendations, precasters should not expect changes in plastic concrete's air content, density or temperature. Cement hydration rates, setting time and compressive strengths should also remain unaffected.

However, because VMAs impact fresh concrete's viscosity, and in some cases its yield stress, VMAs on their own are likely to reduce slump of traditional wet-cast concrete and reduce slump flow or the spread of SCC.

"VMAs will tighten up the spread a little," explained Andrew Pearson, concrete business unit district manager with Sika Group. "With all other factors held constant, if Mix A has no VMA and a 26-inch spread and Mix B has the VMA, we might measure a 24-inch spread with Mix B. We might also use a water-reducer to counteract the reduced SCC spread."

Additionally, VMAs' impact on fresh concrete's viscosity, consistency and stability also tend to reduce bleed water and the visibility of flow lines.

TIPS AND TROUBLESHOOTING

As with any change in raw materials or mix design, incorporating VMAs requires careful attention to detail, plenty of trial batches, diligent tracking of fresh and hardened concrete test results, and ample patience.

Trial batches

Experimenting with trial batches is key to success, particularly when determining the proper dosage rate for your VMAs.

"The most common mistake is making big jumps, shooting for the moon right away and starting off with a high dosage rate," Pearson said. "Instead, make one minor change and see what impact it has. Start at one ounce per hundredweight.

"Some VMAs are more potent than others."

Calibrations

Because the dosage rate of VMAs can be as low as one ounce per hundredweight, a slight variation in dose could have a significant impact on the concrete mix.

"This low dosage rate amplifies the need for accurate and routine equipment calibrations," Jeknavorian advised.

Batching

Although VMAs vary by supplier, they are usually batched into the mixer with the water, or at the beginning of the batch. Because VMAs are used in such small doses, incorporating them with mix water helps ensure consistent, thorough distribution.

Window of effectiveness

Unlike other types of admixtures, the window of effectiveness and functionality for VMAs is open.

"The material tends to be active from the time of batching all the way through initial set," Jeknavorian said.

This attribute is critical to ensuring that the mix's consistency and homogeneity are retained and all raw materials – including heavy aggregates – remain in suspension until the concrete hardens.

Troubleshooting

Despite their far-reaching benefits and variety of applications, VMAs should not be mistaken for an all-purpose solution or a quick fix for a batching error.

"The addition of a VMA to a concrete batch that has segregated may reduce or eliminate the segregation, but if the segregation was due to excessive water, the strength and durability of the concrete will be affected," Harris explained.

Jeknavorian agreed.

"One should never use a VMA to correct a mis-batch," he said. "You can try to fool the rheological properties, but the concrete will know something is wrong."

Precasters are encouraged to rely on their admixture suppliers for support when implementing VMAs and for troubleshooting guidance.

PUSHING THE BOUNDARIES OF PRECAST

VMAs are yet another novel advancement in the concrete industry. They allow precasters to design mixes that continue to push boundaries – achieving very high flowability, self-consolidation, great strengths, homogeneity, consistency and cohesion – all while defying their natural inclination to segregate. With proper procedures in place and careful attention to detail, VMAs can provide reliable, effective precast solutions. **PI**

Kayla Hanson, P.E., is NPCA's director of technical services.

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Warranties

PART 1: BUILDING A COMPETITIVE ADVANTAGE

Offering warranties on your precast concrete products may create an **added level of assurance** for the customers and owners you serve.

By Mason Nichols

Jeff Hoffman, managing member at Flemington Precast & Supply in Flemington, N.J., was looking for a way to set his company apart from others in the region more than a decade ago. While Flemington Precast had successfully sold a wide variety of precast products throughout the company's history, Hoffman's focus was on the product line representing the lion's share of the company's sales – wastewater treatment tanks.

"Back then, we were the first and only company doing any type of watertightness testing in New Jersey," he said. "We saw that as an opportunity to do something different."

Flemington Precast started offering a five-year warranty to cover watertightness and structural integrity on its tanks during a time when the test wasn't a state requirement. This decision resulted in a distinct competitive advantage for the company for nearly a decade before state testing requirements shifted.

Offering warranties on your precast concrete products can pay massive dividends for your business. The recipe for success is simpler than you might think and involves both proper planning and strategic foresight.

CONSTRUCTING THE FOUNDATION

For precasters considering offering warranties, the first decision to make is what products or product lines should be covered. Wastewater treatment tanks, which comprise a large portion of Flemington Precast's production volume, were the obvious choice for Hoffman. Wieser Concrete Products of Maiden Rock, Wis., offers a limited 1-year warranty on many of its products and has developed a specialized 20-year warranty for septic tanks. The company also offers a 10-year warranty for its precast concrete cattle slats. No matter which products you decide to warranty, the key is to perform the necessary legal research.

Under the Uniform Commercial Code, all products sold generally possess an implied warranty of merchantability. For your customers, this functions as an assurance that the products they purchase can be used for their designed purpose. For example, if a new dishwasher does not clean dishes, or a recently installed tire does not hold air, those products would fall under an implied warranty of merchantability.

Typically, warranties should extend well beyond this standard form of protection. As such, you'll need to consider what you'd like to cover along with what you'd like to omit. You'll also need to determine and clearly specify the length of the warranty. When Hoffman crafted the tank warranty for Flemington Precast, he initially stitched the concept together by examining both the National Precast Concrete Association's Best Practices Manual for On-site Wastewater Systems and warranties offered by competitors in the area. But he also referenced one particularly important step in the process.

"I would highly recommend that any precaster developing a warranty run the language in their document past legal counsel," Hoffman said.

Nicholas Vander Veen, managing partner at Brower Vander Veen, PLC, in Grand Rapids, Mich., echoed his assessment.

"An ounce of prevention is worth a pound of cure," he said. "Your attorney can help you identify risks and take care of issues before they become bigger concerns so that mitigation ends up preventing litigation."

THE PROOF IS IN THE ENGINEERING

Selecting your warrantied products and developing the associated language should be supplemented by an assessment of your products and what they can achieve. Andy Winkler, general manager at Wieser Concrete, explained that the company worked directly with suppliers to create its septic tank warranty. These groups helped Wieser Concrete determine what type of mix design to develop to increase the longevity and durability of its tanks.

In addition to consulting with third parties, it's also imperative to consult with your engineers – whether internal or external – to determine the design parameters under which your products can operate. Are the products guaranteed to perform under a certain load or pressure? Will the design allow them to maintain efficiency and function throughout their service life?

"We do a lot of proof testing," Winkler said. "For instance, with our cattle slats, we load-test them at the plant to determine what they can

Photo courtesy of Wieser Concrete Products

Wieser Concrete worked directly with suppliers to create its septic tank warranty, which covers workmanship and materials.

withstand. So, you not only conduct the necessary engineering, but also complete the proof testing to make certain that the product can perform as expected."

Vander Veen confirmed this method as the optimal approach by pointing out that while your attorney will help create and verify the language in your warranties, your products must still stand firm on their engineering. He added that precasters must also consider how they will handle a warranty should an issue arise during the coverage period. This resolution can include repair, partial replacement or full replacement.

ADDED REASSURANCE

Ultimately, providing a warranty isn't just about offering a solution to customers when a product fails to perform as expected. It's also about instilling a sense of confidence in your product lines, both for the team manufacturing the products and for the customers purchasing them.

"If we have a client who isn't familiar with us, how do they know that we're any good?" Winkler said. "If we do have a warranty, for that initial sale, this will often make them feel better about working with us."

Even if your products are high-performing and consistently function without issue, another benefit of having a warranty option available is the ability to quickly recover should problems ever arise. As Hoffman stated, "Good word about you travels very slowly – bad word travels like lightning."

Winkler noted the warranty can be especially helpful at the tail end of some sales conversations. And sometimes, the availability of the warranty is the determining factor in closing a deal. Wieser Concrete's decision to offer warranties has also led to prospects contacting them to ask for assessments and repairs – even on septic tank systems installed by other companies. As such, Wieser Concrete's warranties have proven to be a successful method for generating and capturing leads.

Beyond relationships with customers, offering warranties can also improve your relationships with specifiers. The availability of a warranty reassures specifiers that they are working with high-quality products and reputable companies that stand behind their work.

PUTTING YOUR CONFIDENCE ON PAPER

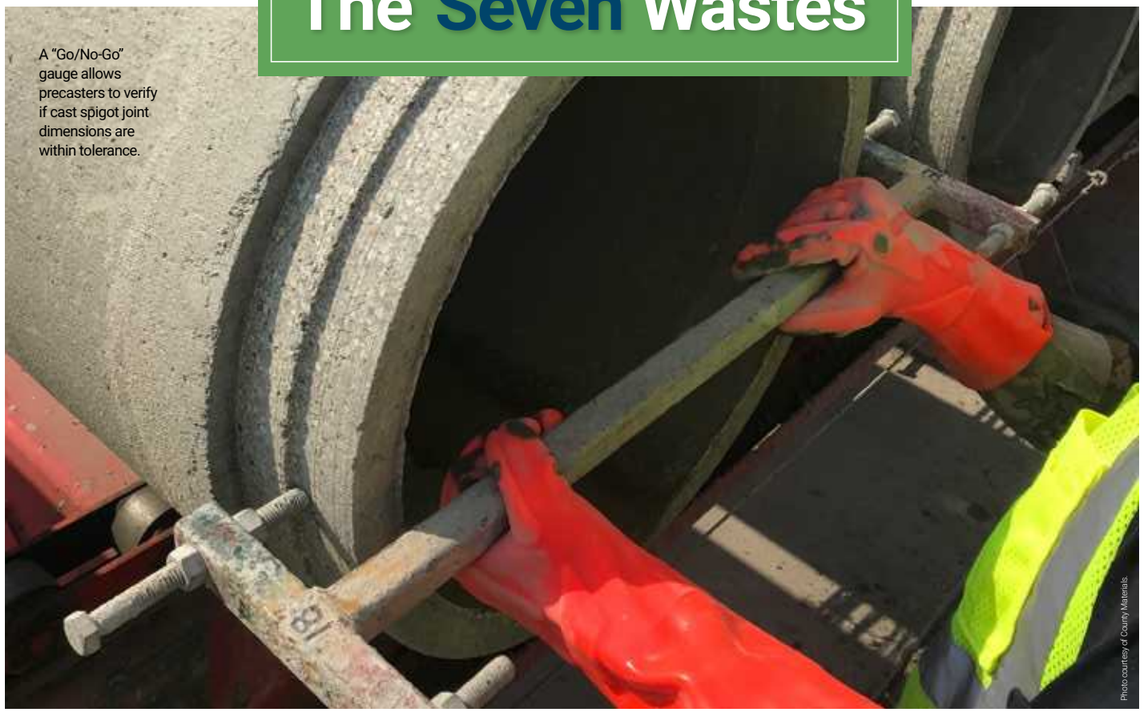
Offering warranties at your precast plant is a multi-step process that involves selecting the appropriate products and product lines, proof testing these products to ensure the engineering is sound, developing your warranty language and approving this language through an attorney. While this endeavor may at first seem complex, as Winkler explained, the logic behind offering warranties makes it quite simple.

"Whether or not you put it in writing, you're going to stand behind your product anyway," Winkler said. "Why wouldn't you put it on paper?"

If you are confident in your products, team and company, offering a warranty should be an easy decision. **PI**

Mason Nichols is a Grand Rapids, Mich.-based writer and editor who has covered the precast concrete industry since 2013.

The Seven Wastes



A "Go/No-Go" gauge allows precasters to verify if cast spigot joint dimensions are within tolerance.

Photo courtesy of County Materials.

Waste #7:

DEFECTS

By Eric Carleton, P.E.

Editor's Note: *This is the final article in a year-long series about how seven common types of waste in manufacturing can create unprofitable activity and how to address them in your plant.*

A precast concrete defect can be defined as a product not meeting a standard or a customer's expectation. Like all wastes, defective products create additional problems and add costs throughout the production process. They also generate environmental wastes not identified in this series. For these reasons, many lean quality management experts consider defects to be the worst of the seven wastes.

However, defects are one of the easiest wastes to identify. Does the product meet all aspects of its respective ASTM, Department of Transportation or municipal standards? Does it display the aesthetics and company reputation as intended? If the answer is "no" to one of these questions, you have a defect that needs correction.

While identifying a defect can be straightforward, understanding the cause and corresponding remedy can prove to be more difficult. When attempting to tackle defects, four guidance activities are often recommended[1] by lean manufacturing experts[2]:

- **Determine one defect on which to place your primary emphasis.** For example, a precast inlet was stripped from the form and has rough vertical wall edges that appear honeycombed or jagged. This defect not only creates issues with appearance and acceptance, but it can also affect long-term durability and possibly structural integrity. This type of defect often requires repair.

- **Determine when in the production process this defect occurs and identify the cause.** If the product in question is wet-cast, is the issue related to stripping? Are you experiencing a paste leakage issue caused by forms not being connected or latched correctly, properly maintained or checked for dimensional tolerances? Are forms being damaged during production, crane operation or storage? Use root cause analysis procedures to identify where the problem originates and determine the appropriate solution. Ensure the solution totally corrects the identified problem at the source such that the problem does not proceed in some manner down the production line.

- **Revise the process and/or provide training to correct the defect.** Investigate the form tolerances, ensure latch mechanisms are working properly and perform the necessary maintenance on the forms. Conduct form dimensional checks and maintenance at a greater frequency or add chamfers at the corner sections, which may prevent the loss of concrete paste at the form joints and improve appearance. Train your employees on proper production techniques and talk about why the issue has been occurring and why it's imperative to make process changes. You can engage crews in helping to identify what other tools or resources may be needed to prevent the defect in the future.

- **Standardize the process to eliminate the defect.** Leverage the data gathered during the process revision and training phase and include that information into the new process or method. For instance, incorporate the maximum allowable gap tolerances of form joints

A jig fixture with the correct bar spacing specifically cut into steel channels or angle iron fabricated frames helps minimize, or eliminate, the possibility of human error.

into the pre-pour dimensional inspection checklist. Develop simple gauges for your workers to verify tolerances are not exceeded. Ensure form dimensional compliance and latch connections are verified in good working order prior to production activities. When you've standardized your new process to eliminate the root cause of the defect, conduct ongoing and refresher training on the new process and correct techniques.

Another important technique used by precast plants to reduce defects is "Poka-Yoke." No, this isn't a variation of a boxing technique championed by Mohammed Ali, but rather a process to remove the potential for human error and make it "mistake proof." Poka-Yoke (pronounced PO-ka yo-KAY) is defined by the American Society for Quality as "the use of any automatic device or method that either makes it impossible for an error to occur or makes the error immediately obvious once it has occurred."[3]

For a precast operation, Poka-Yoke could be applied to proper placement of reinforcing steel into a vault form as an example. The normal process is to construct the steel cage on the form pallet and have the rebar alignments marked on the inside of the interior form or core. This process is completed by closing off the form with the exterior form or jacket. However, the bar spacing simply placed by eye could be out of tolerance or an incorrect bar diameter could be placed in the cage.

A Poka-Yoke solution to this issue would be to construct a jig fixture with the correct bar spacing specifically cut into steel channels or angle iron fabricated frames. The specific placement areas would then be clearly marked with the correct bar numbers or notched so only the correct bar would fit properly. These steps minimize – or eliminate – the possibility of human error.

Other strategies falling within the Poka-Yoke family are those which make an error immediately obvious, preventing the error from moving down the line. Again, thinking of reinforcing steel fabrication, consider fabricating the perfect bent shapes and angles and keep them for a reference or template on a shadow board in the steel fabrication area. If any of the bends or angles don't resemble the model, they don't move down the line to the cage fabrication crew.

Properly calibrated aggregate moisture meters or probes, along with automatic mix water adjustment systems, would also be considered Poka-Yoke strategies as they remove the variability from all processes involved during a manual aggregate sampling, moisture burn test and concrete mix moisture modifications.

Another important tool used in the precast industry to verify if cast spigot joint dimensions are within tolerance for proper gasket deformation is the "Go/No-Go" gauge. Proper use of this device will provide quick confirmation if the joint is out of tolerance for the supplied gasket.

STRIVE FOR PERFECT

As a precaster, your goal should be to identify, analyze and eliminate defects, and implement revised methods and training to prevent them from occurring again. Those who do will realize reductions in other types of waste, resulting in a chain reaction of other improvements as well – including enhanced profits, efficiency and morale. **PI**

Eric Carleton, P.E., is NPCA's director of codes and standards.

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Defects Cost More

Pat Liston, director of quality, central region, for Forterra Pipe & Precast, has worked through defect situations throughout his nearly four decades in the precast concrete industry. He cautioned precast companies to ensure they consider all the costs of a product defect.

"Where and how are the defects accounted for within an organization?" he said. "Who covers the cost of the patching crew? Does it go against the production numbers for that day's run?"

Without properly accounting for the true cost of a product defect, developing a solution to eliminating it will be difficult.

"Defects shouldn't be considered part of doing business," Liston said. "Product defects have many costs which may be hard to quantify. It may be easy to say one scrap piece expense plus one replacement piece expense equals two pieces of expense. But what about all the hidden costs?

"A precaster needs to remember there is also a lost 'opportunity cost' of applying that time and energy to making another new profitable product."

Many quality experts have estimated the true cost of a product defect requiring repair or scrap is up to 10 times the cost of the original product. Then, there's also maintaining your company's positive image.

"A good name of a company has value," Liston said. "Companies that provide contractors with defective, often repaired, often patched, often replaced products suddenly become just a commodity."

Working For You

Building Concrete Connections
Through Virtual Outreach

For many precasters, outreach efforts have always had an in-person slant – a plant tour, presentation, lunch and learn, meeting or other face-to-face event. But with limitations on gatherings in effect due to COVID-19, in-person events may not be an option. Thankfully, losing the in-person experience doesn't have to mean an end to your outreach strategy. Transitioning to a virtual plan offers new options and can be a simple solution for reaching your target audiences and maintaining crucial relationships.

Virtual outreach is ideal for those with fewer resources available amidst the current pandemic, allowing you to save on both travel expenses and time. Your message can be delivered without the extra time needed to plan and prepare for hosting an event at your plant. And, since most business professionals have recently experienced telecommuting, online meetings or other virtual meetings, now is the perfect time to implement virtual outreach strategies.

The virtual approach gives your audience an opportunity to experience an up close, personal view inside your brand, company values and facilities. It allows for a focused plan that spotlights what your company does best. Additionally, options for conducting virtual outreach can be tailored to reach specific audiences:

- **For specifiers, contractors and regulators, educational offerings that offer continuing education credits are a big hit. Participation in NPCA's specifier webinar series increased by 400% in 2020.**
  - *Virtual presentations can include product demonstrations that showcase new technologies, products and any services you provide.*
- **Offering virtual guest lectures is a great way to build relationships with faculty at your local colleges, especially if they're conducting online classes. NPCA currently is working with professor contacts to offer guest lectures this school year. Many professors are open to industry participation in their online classes.**
  - *Depending on what works best for your local academic contacts, you can offer a live or prerecorded presentation.*
- **Reach potential hires and promote workforce development by pointing job ads to videos and presentations spotlighting your employees and their role within your company.**
  - *NPCA's research into workforce development has shown that those in Generation Y (millennials) and Generation Z are heavy consumers of electronic content over print.*

NPCA has conducted virtual outreach to influence audiences across the U.S. and Canada. Our experience has shed light on best practices to help you with your virtual strategy.

CHOOSING A PLATFORM

Whether you choose to conduct a slideshow presentation, one-on-one meeting or recorded plant tour, you'll need a platform that will connect your presentation to your customer's computers and mobile devices. If you've already committed to a platform, get to know its capabilities for optimum use. If you have yet to do so, consider the presentations and meetings you have attended since the beginning of COVID-related stay-at-home orders in March and April 2020. Did any specific platform provide you with the best experience?

Zoom has become very popular this year. Microsoft Teams offers similar functionality and may already be part of your Microsoft Office suite of products. Other options include Webex and the "GoTo" suite of products, such as GoToMeeting and GoToWebinar. Costs for each platform vary, and some may require you to estimate the number of attendees you'll be hosting to choose the right license for your efforts. This will be difficult when you first begin offering virtual programming, so focus on platforms that provide flexibility in terms of your number of attendees.

BECOME AN EXPERT ON YOUR PLATFORM

No matter which platform you choose, you should become an expert in its capabilities. Complete the tutorials that are offered with your purchase and perform additional online research. Many tips and tricks are offered online, and some self-study will prove worthwhile should you encounter a problem during an outreach session.

PRACTICE

Set up practice sessions with coworkers. Additionally, even when you feel like you're comfortable, give your event a trial run. During NPCA's Virtual Committee Week, we followed this approach, inviting committee members to test their connections and practice on the platform. Trial runs may reveal a need for upgrading equipment, such as microphones, cameras or editing software. They may also offer you tips for becoming a better presenter.

PROMOTE YOUR OFFERINGS

In addition to creating the content for your meeting or presentation, you should also develop a marketing plan for promotion. This can include email blasts, promoted social media posts, print ads and reaching out to your contacts with personal invites. Creating a plan for following up with your attendees is also recommended. This includes sending reminders in the days leading up to your event and asking for feedback afterwards. All of these steps will help you capitalize on your investment.

NPCA currently is working with professor contacts to offer guest lectures this fall.

WORKING FOR YOU

If you need content, NPCA can work with you to develop virtual education offerings. We have a large database of technical resources available on our website at precast.org. Additionally, NPCA's education catalog features a specifier webinar package loaded with recorded webinars on topics geared specifically for specifiers. The NPCA professional staff is always available to assist with technical information, provide leads for reaching your target audience or to answer any questions about conducting virtual outreach.


NPCA file photo

NPCA has offered webinars for years, but this year has placed a heavier emphasis on them and is experiencing record results.

CHAIRMAN'S CHOICE

Columbia Precast Products

UNFAZED:

Columbia Precast Products

Editor's Note: *The "Chairman's Choice" story features projects selected by Ron Sparks, general manager of Columbia Precast Products and newly elected NPCA Chairman of the Board.*

By Matt Werner / Photos courtesy of Columbia Precast Products

CHAIRMAN'S
CHOICE

Columbia Precast Products

Columbia Precast Products manufactured split box culverts to span two different creek crossings to help mitigate flooding.

Ron Sparks learned long ago there are always problems in the construction industry. From production to installation to the job site to weather delays, something always seems to throw a wrench into even the best laid plans. How you respond to these challenges makes the difference, and that is where he feels Columbia Precast Products sets itself apart.

Sparks, the general manager at Columbia, prides himself and his company on responding to customer needs and generating solutions to keep projects on track.

"Whether it's your problem, their problem or somebody else's problem, customers want to know how you're going to fix it and help them," he said. "The ability of the people who work at Columbia to say, 'Here's the issue – how can we resolve it?' and have them figure that out is really gratifying for me.

"That's the thing I'm most proud of with this company. We have a lot of really good people."

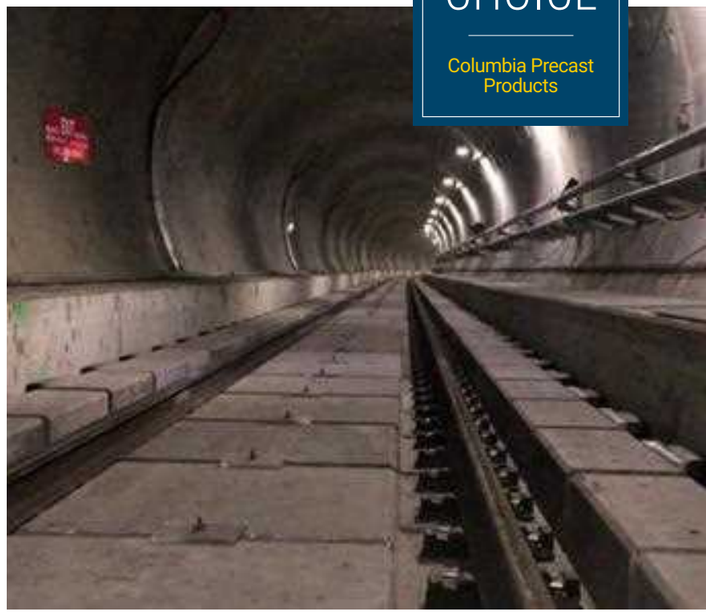
The ability to fix a problem was on full display for a culvert project on Oregon State Highway 35, near the Mount Hood Skibowl in Government Camp.

Columbia manufactured split box culverts to span two different creek crossings as part of a project to mitigate flooding in the heavily traveled area. One culvert measured 19-feet-by-10-feet-by-120-feet, and the other spanned 19-feet-by-10-feet-by-56-feet. In total, Columbia manufactured 40 pieces of culvert and 16 wingwalls, with each piece weighing more than 18,000 pounds. But a delay with the crane company caused an issue as pieces started arriving at the job site.

"Now, we have trucks parked at the summit of Mount Hood and the crane broke down," Sparks explained.

With a major thoroughfare shut down and the installation window closing quickly, the team at Columbia immediately

CHAIRMAN'S CHOICE
Columbia Precast Products



"That really showed me that the people who work for Columbia take ownership and pride in what we do."

– **Ron Sparks**, *general manager, Columbia Precast Products*

responded and started working on solutions to keep the project on track. Columbia's team was able to work with their trucking company to get the project up and running again.

"The group of people in our office on both the sales side and the logistics side took ownership of the situation and did what needed to be done to keep the contractor and trucking company happy," Sparks said. "That really showed me that the people who work for Columbia take ownership and pride in what we do."

SOUND TRANSIT PROJECT

Sparks has also seen his crew take on projects he knew they could handle – even if they weren't sure they could. Meeting a challenge and watching his team beat it is one of Sparks' favorite things to see.

Quality control and engineering is something Columbia

CHAIRMAN'S
CHOICE

Columbia Precast Products

Columbia Precast Products manufactured 1,600 floating slabs weighing 12,000 pounds each for a transit tunnel vibration-dampening system.

prides itself on, but a project for the Sound Transit put the team to the test.

A new tunnel for the transit's rail line was being built underneath the University of Washington campus in Seattle. The biggest caveat to the project was university officials not wanting vibrations to affect their physics lab equipment and research.

To counteract this, the tunnel features a vibration-dampening system that reduces the vibration down to 5 hertz, a technology first developed in London for its subway system. For the project, Columbia manufactured 1,600 floating slabs weighing 12,000 pounds each. Tolerances were just 1/16 of an inch all the way around, taking QC to a new level.

"Our guys totally knocked it out of the park," Sparks said. "We built all these policies and procedures, QC checks and double checks. We went so far as to hire a third-party QC company to come in and help us to do even more quality control."

Sparks said some of the things they did were elementary – like having a process set for turning on the scale for the crane. Some of the pieces had inserts cast into the panels, and Columbia placed bolts through the forms to help hold the inserts in place.

"We painted the bolts a bright orange and had racking welded onto the forms with individual holes for each bolt," he explained. "It was as simple as having a check sheet that said, 'Are all 16 bolts removed?' and having to look and make sure. In most cases, things like that aren't as critical, but in this case it was."

Once a Columbia employee completed a check of the form, an orange magnet was attached to it, signaling it was ready for pouring. Then the third-party company would come by and perform its check. Once both sides signed off, the piece could be poured.

"Out of the 1,600 pieces, we had 40 of them that were out of tolerance," Sparks said. "It was very comprehensive."

The project had its ups and downs, but Sparks knew his crew could handle it.

"My history and past with tunnel jobs made me feel confident that we could do it," he said. "We had some employees who were gun-shy of it at first, but once we got going, everyone felt comfortable with it."

The job opened the door for Columbia to do more work with prestressing.

"Doing a job like that opens everybody's eyes to knowing that we can do that type of highly technical, highly scrutinized work," Sparks said. "Our confidence level since that one, I can see it, our guys are not really fazed by anything in terms of something new."

COORDINATION IS KEY

A few years ago, Columbia took a call from a customer it had worked with previously. This customer was working a job at Intel's campus in Hillsboro, Ore. The tech giant

CHAIRMAN'S CHOICE

Columbia Precast Products

Columbia Precast Products' stormwater management system for Intel features cube-shaped modules that can be stacked and easily installed.

"My history and past with tunnel jobs made me feel confident that we could do it."

– **Ron Sparks**, *general manager, Columbia Precast Products*

had a retention pond it wanted to fill so it could recapture some usable land and expand for an employee lunch and break room area. This job required a solution that would move the retained water to an underground system.

The team at Columbia mentioned to the customer that the company is a licensee of retain-it, a stormwater management system featuring cube-shaped modules that can be stacked and easily installed. In total, Columbia produced 700 units that were each 8-feet-by-8-feet for the project. Once the units were set and backfilled, the newly created space was ready for Intel's use.

"The pond was in the shape of a triangle, so it was not just one big, long rectangle," Sparks said. "That shape didn't cause much problem for us because we were doing it with 8-by-8 cubes."

Columbia started double-pouring and working weekends through the spring to get the products manufactured. Columbia shipped out 12 truck loads per day for 10 straight days so the contractor could immediately install the pieces and be finish the work within a week-and-a-half.

Constant communication was a key part of the project. Sparks said the sales team even went so far as to take the CAD drawings to the site and mark every piece to ensure each was installed in the right order.

"Coordination went really well because of our folks internally both

> "I believe we have the customer's best interests in mind, and we solve problems for them. It's not just about a project for us, but solving those issues, and that's pretty gratifying."
>
> – **Ron Sparks**, *general manager, Columbia Precast Products*

on the sales side and the trucking side," Sparks said. "Everyone was in constant communication with each other."

Adding to the complexity, the product was delivered during the summer, which is Columbia's busiest time of the year.

"It came off without a hitch, and it was phenomenal to watch," Sparks said. "Looking back at that project, the people involved just took ownership of it and weren't going to let it fail. That was what made it successful."

Through projects such as this, Sparks sees the potential of his employees and how this helps the company grow.

"We've got a lot of really good people," he said. "I believe we have the customer's best interests in mind, and we solve problems for them. It's not just about a project for us, but solving those issues, and that's pretty gratifying." **PI**

Matt Werner is the managing editor of Precast Solutions magazine and is NPCA's communication manager.

NPCA Foundation Silent Auction

Supporting the NPCA Foundation Silent Auction through a donation has positive, long-lasting effects on the industry. And it's fun, too.

Donations for The Precast Show 2021 NPCA Foundation Silent Auction are now being accepted. Visit **precast.org/producer-donation** or **precast.org/associate-donation** to find the Producer member and Associate member donation forms.

By Matt Werner

If you could easily promote your business, would you? What if doing so also offered you the chance to generate business with a new customer and develop the future workforce of the industry? Seems like an easy decision, doesn't it?

The NPCA Foundation and PCI Foundation silent auction, now held at The Precast Show, is a fun way to raise money for both organizations and support their missions for growing the industry. The auction has grown in recent years – both in donations and money raised – as more companies have become involved.

Ashley Runion, Haarup North America's marketing manager, said Haarup has donated to the auction every year as a way to support the Foundation.

"We normally try to donate something that is local and supports a small business from our city/state," she said. "All items are always things that we support, have tried or personally love; such as wine or craft items. We just want fun items that people will enjoy using while also being able to showcase our home state."

For Amy Burnett of Barbour Concrete, being involved with the NPCA Foundation is personal since her mother, Daneen Barbour, was a big supporter of the Foundation, which awards a scholarship in her honor.

"When the auction came up as a way to support the Foundation, we jumped on board," Burnett said. "You're supporting the Foundation and getting something for your investment."

Richard Isaacson, owner of iwi Concrete Equipment Group and a former Chairman of the NPCA Foundation Board, said his company has donated items ranging from tickets to concrete buckets and larger items.

"By donating product, we open up the door to a potential new customer," he said. "It's a win-win for the buyer and the seller since they get the equipment, and we have a new customer."

Paul Bilson, Hyundai Material Handling's manager of dealer development and national accounts, said his company decided to donate a short-term rental of a new forklift for this year's auction.

"Since we keep a decent inventory of new, large forklifts, we were able to provide something of high value for the auction that most NPCA members

The silent auction moved from the NPCA Annual Convention to The Precast Show in order to grow it in scope and expand it to new bidders.

Photo courtesy of Hyundai Manlift Handling

The team at Tindall was excited to receive shipment of the forklift rental they won during the NPCA Foundation silent auction.

could use," he explained. "The result was good for everybody – the NPCA member received something of value, we were able to demo our product to an interested customer and most importantly, NPCA received a great silent auction donation."

The lift caught the eye of Tindall Corporation's Joel Sheets.

"Our team's operations manager had reviewed the lift on the show floor, and we decided this would be a great opportunity for a month-long review of new equipment," Sheets noted. "Buying items like these from the auction is a great way to both support the Foundation and try new products that can help your business."

The experience opened the door for Hyundai and Tindall to do business together – allowing Hyundai to get a new customer and Tindall to fill a need. Bilson said Hyundai was also able to meet other NPCA Members by being involved with the auction and has consequentially began building more relationships.

If nothing else, participating in the auction often leads to a conversation. Runion noted many times the winner will ask questions about the vineyard or local items they donated. For Isaacson, the camaraderie of participating in bidding is another fun part of the auction.

"Sometimes, it's not even about the value of the item but just outbidding your friends," he said. "It brings people together. Say I see something, but I don't want my friend to get it.

"I'll go bid on it just to mess with them."

This jovial interaction was something Burnett mentioned as well since precasters have a reputation for being playfully competitive.

"It's a fun way to get involved," she said. "The bigger the auction is, the more fun it is for people. There's that competitive nature among precasters, so it's really a good way to build support."

All noted how easy it is to take part in the auction and encouraged others to do so.

"Whatever your budget will allow, just make it fun and interesting or something of value to the member audience," Bilson said. "You might also ask members what they would like to see on the auction block."

The money raised helps build upon the work both Foundations are doing, encouraging more students to become involved with the industry. Runion said Haarup will continue to support this important work as much as possible because it gives students the opportunity to learn more about precast and apply that knowledge within the industry.

Isaacson agreed.

"Getting involved and staying involved with the industry means more than buying some equipment or tickets," Isaacson said. "If a student sees our name and remembers us, that's the most valuable part of it to me." **PI**

Matt Werner is the managing editor of Precast Solutions magazine and is NPCA's communication manager.

Virtual NPCA 55th Annual Convention Wrap-Up

NPCA 2019-20 Chairman Jon Ohmes hands the gavel to 2020-21 Chairman Ron Sparks.

A donation to the NPCA Foundation was made in honor of NPCA 2019-20 Chairman Jon Ohmes' service on the Board.

NPCA 2020-21 Chairman Ron Sparks is presented the Douglas G. Hoskin award.

The *virtual* NPCA 55th Annual Convention was held Oct. 13-15, 2020. The meeting, which had more than 450 registrants and 53 sponsors, opened with a keynote address by U.S. Secretary of Transportation Elaine L. Chao. Secretary Chao's address was followed by an economic address by Ken Simonson, chief economist with the Associated General Contractors of America.

During the Annual Business Meeting, NPCA members elected Ron Sparks, vice president/general manager of Columbia Precast Products in Woodland, Wash., as 2020-21 Chairman of the Board of Directors for a one-year term. Sparks also was presented with the NPCA Douglas G. Hoskin award, which is named for one of NPCA's founders and honors a dedication to recruiting new members to the association.

In his acceptance speech, Sparks spoke about his passion for the precast concrete industry, the importance of the association and its recent accomplishments, as well as his goals moving forward.

"The association has allowed me to push toward ideals I hold in the highest regard, including giving back to the industry and the people who have given so much to me," Sparks said. "My two predecessors have implemented key initiatives, including research and pushing our association forward on marketing. Along with sales training, these will form the fundamental groundwork of our efforts well into our future."

Rounding out the leadership are 2020-21 Chairman-elect Mark Wieser, vice president of Wieser Concrete Products in Portage, Wis.; and 2020-21 Secretary/Treasurer Joel Sheets, vice president and general manager of Tindall Corporation in Spartanburg, S.C. Asher Kazmann with Locke Solutions in Houston, Texas; Charles Piwowarski with Forterra Pipe & Precast in DeLand, Fla.; and Sam Lines with Concrete Sealants in Tipp City, Ohio, were elected to the Board for three-year terms.

The Annual Convention also included committee meetings, education courses, a live virtual plant tour of Columbia Precast Products presented by Sparks, and it concluded with industry awards and a closing address by Ron Insana, CNBC analyst and financial industry expert.

In addition, the NPCA Foundation elected Aaron Ausen as Chairman of its Board of Directors for a two-year term. Ausen, with Rosetta Hardscapes, has nearly 25 years of experience in the precast concrete industry and has served on numerous NPCA committees and task forces including the education committee and various product committees.

"I am truly honored to serve as Chair of this great organization, and I hope to make as large of an impact as those who have served before me as we lead the Foundation into the future," Ausen said. "Those who have been involved with the Foundation are genuine people who believe in something greater than themselves – things like integrity, service and collaboration. Those values, among others, have molded the Foundation and continue to shape it as it grows daily."

The NPCA 56th Annual Convention will be held Oct. 28-30, 2021, at The Broadmoor in Colorado Springs, Colo.

NPCA 2020-21 Chairman Ron Sparks conducted a live virtual plant tour during the NPCA 55th Annual Convention.

NPCA Producer Portal Gets a Facelift in 2021

NPCA professional staff has been working diligently to enhance the certified plant user experience while updating the functionality and interface of the Producer Portal. Upon release in 2021, the completely revitalized Portal will be integrated into your *my*NPCA account for certified plants via the NPCA website.

The new portal will have all the security features of the previous version, named "Auditor," including what is used under the *my*NPCA umbrella.

You can launch the new Producer Portal directly from *my*NPCA – features can be found under "PLANT INFO" just to the right of "HOME" at the top of the landing page. There are five navigation choices: Plant Profile, Certificate, Documents, Plant Audits and Self Audits. While these choices are not new, each category has been simplified with a brand-new user interface to enhance your experience.

*my*NPCA PRODUCER PORTAL FEATURES

• Plant Profile

Under the Plant Profile category, certified plants enter information regarding operations, products, auditor safety and plant shutdown schedules. This information is used to inform the plant auditor about changes in plant contacts and equipment and must be updated by plants yearly at a minimum

• Certificate

Certified plant certificates are available to plants who update their profile yearly. This feature allows you to download a PDF of your certificate with a single click.

• Documents

This feature has been simplified significantly. Along with a new user interface, we've streamlined upload options to help you organize your documents. There is also a visual representation of what is uploaded under each of the applicable sections, including a date and time stamp. Documents may be uploaded with a set expiration time. For example, ACI Concrete Field Testing Technician I has a 5-year life, just like NPCA Production and Quality School Level I. When these documents are uploaded, the plant can specify an expiration date and not have to worry about uploading files every year.

• Plant Audits

Under Plant Audits, you can access a recent history of past inspection reports and subsequent actions taken.

• Self-Audits

The self-audit feature works the same as if your plant personnel were acting as the inspector on the day of the inspection. It is identical to what is used by NPCA's third-party agency personnel and can be accessed at any time by plant personnel to determine your readiness or status against the current program manual. **PI**

For plant certification questions, contact Andi Pierce at apierce@precast.org, or Phillip Cutler, P.E., at pcutler@precast.org or 800-366-7731.

PRECAST INC. MOVING TO A QUARTERLY PUBLICATION

Precast Inc. magazine will move to a quarterly publication beginning with the first issue of 2021. You will still receive all of the same dynamic content you have been accustomed to over the years in this new format.

NPCA Plant Certification Changes for 2021

The NPCA Quality Control Manual for Precast Concrete Plants serves as the guidance document for the association's plant certification program. As a management tool and technical resource for quality production and manufacturing practices, the manual is under continuous scrutiny to ensure it remains current with advances in technology.

Each year, the NPCA Quality Assurance/Quality Control Committee reviews the content of the NPCA Quality Control Manual with the goal of increasing clarity and making needed improvements. For the 2021 version of the 15th Edition of the manual, the committee made minor changes that members and specifiers are asked to review during a 60-day comment period. The 60-day comment period for the 15th Edition of the NPCA Quality Control Manual opened Nov. 2, 2020, and ends Dec. 31, 2020.

THE QA COMMITTEE VOTED AND APPROVED THE FOLLOWING SECTION CHANGES TO THE QC MANUAL:

- **Section 2.1.1 Cement** – Updated language.
- **Section 2.1.6 Supplementary Cementitious Materials** – Updated language.
- **Section 2.2.3 Welded Wire Reinforcement –** Updated language.
- **Section 5.3.5.5 Cores** – Updated language.

These changes ensure the highest quality manufacturing processes from NPCA-certified plants and provide assurance to customers regarding quality. NPCA-certified plants are required to review their plant-specific manuals and processes annually, along with a complete review of all critical sections that apply to the products manufactured. **PI**

The 60-day **comment period** for the 15th Edition of the NPCA Quality Control Manual opened Nov. 2, 2020, and ends Dec. 31, 2020.

For a complete copy of the addendum and the highlighted version of the proposed 2021 QC Manual that includes the sections mentioned above, visit **precast.org/qcmanual.**

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 kstelsel@precast.org.

KION North America Appoints new Vice Presidents

KION North America recently appointed new members of its executive team.

Brandon Flexsenhar was named vice president, operations. Daniel Schlegel was appointed vice president of customer service. David LaDue was appointed vice president of sales and dealer development.

Chad Rathke

Topwerk Group Announces new President & CEO

Topwerk Group recently appointed Chad Rathke to the position of president and CEO of Topwerk America, the North and Central American division of Topwerk Group.

Rathke has extensive experience in the precast industry with value-added equipment systems, mixing and batching equipment, and concrete and paver production equipment.

Marks Metal Technology announces new representation

Marks Metal Technology, of Portland, Oregon, has announced a representation agreement with JLG & Associates in the southeast and southcentral region. JLG & Associates will be representing the Marks Metal precast form division product line in 11 states.

US Formliner names new President

Ray Clark

Ray Clark was recently announced as the new president of US Formliner.

Clark has been involved in the concrete industry for 22 years and has been with US Formliner since 2012. He has served in management positions for major North American concrete products manufacturers, and senior management for a global concrete products production machinery supplier. He has also been active with many industry associations, including serving on the NPCA Board of Directors from 2016-2019.

Emeri Tompkins

MAX USA Corp. adds Graphic Designer

MAX USA Corp. has expanded its marketing department by adding Emeri Tompkins as graphic designer.

Tompkins will be leading new creative efforts to expand social engagement, increase brand awareness, and deliver an array of marketing collateral to support dealer's business.

Besser CEO announces Spring 2021 Retirement

Kevin Curtis

Besser Company CEO Kevin Curtis has announced he will be retiring on April 30, 2021.

Upon his retirement, President Ryan Suszek will take over as CEO of the company. Curtis will transition to serving as a member of the Besser Board of Directors. **PI**

CALENDAR OF EVENTS

May 20-22, 2021

THE PRECAST SHOW 2021

Ernest N. Morial Convention Center
New Orleans, La.

Oct. 28-30, 2021

NPCA 56TH ANNUAL CONVENTION

The Broadmoor Hotel
Colorado Springs, Colo.

March 3-5, 2022

THE PRECAST SHOW 2022

Kansas City Convention Center
Kansas City, Mo.

Nov. 3-5, 2022

NPCA 57TH ANNUAL CONVENTION

Omni Amelia Island Resort
Amelia Island, Fla.

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