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Q1 2022

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Mack Industries Inc.
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32 Mack Industries thrives under third-generation leadership, which embraces a legacy of teamwork and innovation to better serve its customers.

On the Cover:
Betsy Mack Nespeca (front right) is a third-generation precaster in northeast Ohio. She and her company, Mack Industries, take pride in building a family atmosphere.

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CHAIRMAN'S **INSIGHTS**

A Message from NPCA Chairman Mark Wieser

Happy 2022! I hope everyone's year is off to a wonderful start.

The pandemic taught us a lot these past few years. We invested in our workforce. We tightened up our processes and procedures. We sought new opportunities and markets all while adapting to what seemed to be constant change.

But instead of suffering through a financial crisis like in 2008, precast concrete facilities continued operating, and many of us had solid years. In fact, many of the people I've talked to had one of their best years ever in 2021, and I believe that 2022 will be another great year for the industry.

The challenges and resulting successes also made us stronger, sharper and better prepared for what is coming next.

With the passage and signing of the $1.2 trillion bipartisan infrastructure package, funding allocations soon will be distributed across the United States, creating unlimited opportunities for precast concrete covering a wide variety of projects.

More than $700 billion for roads, bridges and traditional infrastructure projects will require all of the precast concrete products that we produce on a regular basis. Beyond that:

- Replacing lead pipes and service lines in water systems means manhole products and underground utility vaults.
- Power grid upgrades means electrical vaults, precast security fences, utility trenches and precast solar foundations.
- Modernized houses and government spaces means stormwater retention systems and shelters.

Some members already are contracting to produce electric-vehicle charging stations along highway corridors, as well as structures that support public transit investment, high-speed rail and broadband internet access.

I urge everyone to seize the opportunities that are coming. This issue of Precast Inc. includes an article on how to lay the groundwork with local specifiers and help contractors expand their vision of what precast concrete can do. These types of discussions should be a regular part of our routine as we open new markets and develop fresh ideas.

And remember that you are not alone. Look to NPCA and our fellow members not only to help identify the questions we should be asking but also to develop the data and metrics needed to provide a solution that is right for you.

BOARD **REPORT:** The following is a report on the NPCA Board of Directors' meetings for the fourth quarter of 2021.

DEC. 14 – VIA VIDEO CONFERENCE

- Motion made, seconded and carried to approve meeting minutes from Oct. 17, Oct. 30 and Nov. 10 Board meetings.
- Treasurer's report: It was reported that the PPP loan of $394,150 was forgiven and is now shown as income.
- A motion was made, seconded and carried that $400,000 be designated to the Research and Development Fund; $100,000 to be non-designated for future allocation; and the balance of any remaining 2021 profit to pass through to members' equity.
- A Board consensus was reached for the Outreach Task Force to continue its direction and keep the Board informed on development of meaningful proposals for membership engagement and workforce development.

NOV. 10 – VIA VIDEO CONFERENCE

- Motion made, seconded and carried to approve Surplus Fund request of $23,826 to NPCA Foundation for 50% of the amount committed by the Foundation to McNeese State University for development of an already-in-progress studio designed to examine the hydraulic performance of underground structures.
- Motion made, seconded and carried to approve the Precast Concrete Market Estimate Project with the range of $165,000 to $190,000.

OCT. 30 – COLORADO SPRINGS, COLO.

- A motion was made, seconded and carried to approve the 2021-22 Executive Committee: Kevin Camp, Asher Kazmann, Megan Kitchner, Jim Wright.

OCT. 27 – COLORADO SPRINGS, COLO.

- A motion was made, seconded and carried to approve Jeff Pollock to a three-year term to the NPCA Foundation Board of Directors.
- A motion was made, seconded and carried to approve the 2022 budget as presented.
- A motion was made, seconded and carried to approve Oklahoma City, Okla., as the site for the 58th Annual Convention in 2023.
- A motion was made, seconded and carried to approve the payment to California State University at Chico and the CIM program at Kansas State University, payable over four years.
- A Board consensus supported edits to the QC Manual, as presented.

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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 posted on **precast.org**.

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

Brittany writes:

When conducting an infiltration or exfiltration test in accordance with ASTM C969, "Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines," is the precast concrete structure supposed to be backfilled prior to conducting the test?

NPCA Technical Services engineers answered:

A structure must be backfilled to conduct the infiltration test in accordance with ASTM C969. The exfiltration test can be conducted on a structure that is installed and not backfilled or installed and backfilled. However, it is advantageous in many scenarios to conduct the exfiltration test before backfilling. If troubleshooting is required, it could be challenging to locate the source of the issue and resolve the issue if the structure is backfilled and has limited access to, or visibility of, the structure's exterior.

NPCA file photo

ASTM C969 requires that a manhole must be backfilled before conducting an infiltration test.

Kevin writes:

I want to determine the minimum manhole size needed to have four 15-inch PVC pipes in the same plane all at 90-degree angles from each other.

I found the NPCA Manhole Sizing Recommendations Guide at www.precast.org, and the equations accommodate up to three pipes.

What would the angle equations be for the fourth pipe, and what would be the allowable angle ranges when using four pipes?

NPCA Technical Services engineers answered:

To accommodate a fourth pipe, you not only would need to add two allowable angle range equations for the fourth pipe, but you also would need to modify the allowable angle range equations for the third pipe. See the table below.

The Manhole Sizing Recommendations Guide has been updated to accommodate a fourth pipe and is available at www.precast.org. **PI**

DESIGN PARAMETERS FOR FOUR PIPES

Pipe Penetration in Manhole	Pipe Angle with Respect to Reference Point	Pipe Angle Equations		Final Angle	Allowable Angle Range
		Initial Angle	Additional Angle to Account for Structural Leg		
Pipe A (Reference Pipe)	0°	$A^\circ = 2 \times \sin^{-1}\left(\frac{0.5 \times P_A}{r}\right)$	$\Phi_A^\circ = \frac{5 \times 180^\circ}{\pi \times r}$	$A^\circ = a^\circ + \Phi_A^\circ$	$A^\circ < 180^\circ$
Pipe B	X°	$B^\circ = 2 \times \sin^{-1}\left(\frac{0.5 \times P_B}{r}\right)$	$\Phi_B^\circ = \frac{5 \times 180^\circ}{\pi \times r}$	$B^\circ = b^\circ + \Phi_B^\circ$	$X^\circ - \frac{B^\circ}{2} > \frac{A^\circ}{2}$
Pipe C	Y°	$C^\circ = 2 \times \sin^{-1}\left(\frac{0.5 \times P_C}{r}\right)$	$\Phi_C^\circ = \frac{5 \times 180^\circ}{\pi \times r}$	$C^\circ = c^\circ + \Phi_C^\circ$	$Y^\circ - \frac{C^\circ}{2} > X^\circ + \frac{B^\circ}{2}$
Pipe D	Z°	$D^\circ = 2 \times \sin^{-1}\left(\frac{0.5 \times P_D}{r}\right)$	$\Phi_D^\circ = \frac{5 \times 180^\circ}{\pi \times r}$	$D^\circ = d^\circ + \Phi_D^\circ$	$Z^\circ - \frac{D^\circ}{2} > Y^\circ + \frac{C^\circ}{2}$ and $Z^\circ + \frac{D^\circ}{2} < 360^\circ - \frac{A^\circ}{2}$

Have a Technical Question?

Submit your question to NPCA Technical Services engineers by calling (800) 366-7731 or visit **precast.org/technical-services.**

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34	34	34
	36	36

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WHAT CAN LIMESTONE DO FOR YOU?

By Kayla Hanson , P.E.

The world is ever-evolving as success depends on improved processes, optimized outcomes and making the most with what is available. To not do so invites stagnation and even decay.

Generation after generation of eager and capable minds throughout the precast concrete industry bring passion and dedication to all the challenges that need solving.

One challenge for current precast producers and cement suppliers to tackle is carbon emissions. As nature pushes back on excess CO_2 in the atmosphere and governments set stricter standards, some parts of North America already are moving toward materials that satisfy these requirements in anticipation of new laws.

One approach gaining popularity is a concerted move toward limestone cement, also called portland-limestone cement (PLC). Some owners, cities and counties already are updating their specifications to require limestone cement in precast and cast-in-place concrete products. Some cement

NPCA file photo

As Type IL cement becomes more popular and more-often required by specifiers, precast concrete facilities are finding that there is little difference in how the final product looks or acts upon job completion while contributing less carbon into the environment.

manufacturers have ceased all production of Type I cement in favor of limestone cement.

This material isn't a new solution, so what is causing the shift?

To appreciate the motivation behind the growing prevalence of limestone cement in specification requirements and the increase in limestone cement production, it is important to examine what limestone cement is and why it is available in the first place.

Blending for optimization

ASTM C595, "Standard Specification for Blended Hydraulic Cements," describes limestone cement as a hydraulic, binary blended cement that contains more than 5% but no more than 15% by mass finely ground limestone. Limestone use in cement is not new. ASTM C150, "Standard Specification for Portland Cement," allows up to 5% by mass limestone in typical Type I cement. Therefore, switching from ASTM C150 Type I cement to ASTM C595 Type IL cement could result in a limestone content increase of less than 1% in a given concrete mix design.

Material blends such as this are common throughout daily life. Ethanol added to gasoline helps fuel burn more completely and produce cleaner emissions. Polyester added to many fabrics provides flexibility and added comfort. And precasters carefully tailor concrete mix designs with blends of different raw materials to create the most advantageous fresh and hardened concrete characteristics possible given the selected materials and proportions.

Combining or blending materials allows precasters to take advantage of both materials' benefits in one convenient package. In some cases, the blended materials work together to unlock new advantages.

Combining and blending cementitious materials

Combining different cementitious materials in specific proportions allows precasters to optimize concrete mix designs and bring out the best that each raw material has to offer. Some specifications call for a combination of two or more cementitious materials in a concrete mix – such as portland cement and fly ash – which are batched from separate silos into a concrete mixer.

However, some precasters use cements that are preblended in specified proportions and can be batched into the concrete mixer from a single silo. Using blended cements eliminates the need for separate silos for each constituent cementitious material and simplifies the batching process.

WHAT BENEFITS CAN LIMESTONE CEMENT OFFER?

Limestone cement offers more than the convenience of batching multiple cementitious materials into a mixer from a single silo.

Reduced Environmental Impacts

Cement clinker production is the most energy-intensive process involved in manufacturing concrete. The bulk of the energy consumption is attributed to limestone calcination, which is a primary ingredient in cement clinker, and burning coal, oil and natural gas to heat cement kilns. Advancements in renewable energy production have opened the door to less energy-intensive cement manufacturing processes – such as using wind energy to heat cement kilns – but these approaches have yet to go mainstream.

Using less energy-intensive raw materials in concrete mixes can reduce concrete's CO_2 emissions. Targeting the most energy-intensive aspect of concrete – cement – and reducing reliance on it, reduces the overall energy demand of the product, structure or system and reduces the overall CO_2 output.

Photo courtesy of Cemex

A comparison between Type I portland cement (left) and Type IL portland limestone cement magnified under a microscope.

The Portland Cement Association (PCA) reports that use of PLC typically can reduce the CO_2 footprint of concrete by 10%.

"The primary sustainability effect of using limestone as an ingredient in blended cements at levels of 5% to 15% by mass is that less clinker has to be produced for an equivalent amount of cement, and therefore less energy is consumed, and CO_2 emissions (and other greenhouse gases) are reduced," according to Tennis, Thomas and Wiess' 2011 "State-of-the-Art Report on Use of Limestone in Cements at Levels of up to 15%." The Portland Cement Association (PCA) reports that use of PLC typically can reduce the CO_2 footprint of concrete by 10%.

Enhanced life cycle performance

Life cycle assessments (LCAs) analyze the environmental impact of a given product, structure or system. LCAs consider all phases of the product or system in question – starting before construction with the selection, production and procurement of raw materials to construction, service and beyond to reuse, recycling and disposal. Precast concrete structures boast exceptional service lives, especially in comparison to service lives of alternative materials in the same applications. Therefore, despite cement production's significant CO_2 emissions, precast concrete's LCA is favorable over that of alternative materials.

Still, like precasters, project owners continually look for strategies to improve the environmental footprint of products, structures and systems over which they have discretion. One approach is to select raw materials that require less energy-intensive manufacturing processes. As a result, many specifications call for use of supplementary cementitious materials (SCMs) in concrete mix designs, and more specifications are calling for use of blended cements.

Local availability for some

Local availability of limestone sources for limestone cement production provides additional cost savings, time savings and reduction in CO_2 emissions because of shorter transportation distances. Limestone is abundant in many – but not all – regions of North America.

Cement suppliers located in proximity to limestone will be more likely to shift toward producing Type IL cements than those located a great distance from the resource.

What are blended cements?

Blended hydraulic cements combine portland cement with at least one other cementitious material – most often slag, pozzolans or limestone – and are produced by uniformly intergrinding precise amounts of the specified materials.

Blended cements must conform with ASTM C595, "Standard Specification for Blended Hydraulic Cements," which outlines four main classes of blended cements:

- **Type IS** – Portland blast-furnace slag cement
- **Type IP** – Portland-pozzolan cement
- **Type IL** – Portland-limestone cement
- **Type IT** – Ternary blended cement

Type IS, IP and IL are binary cement blends while Type IT is a ternary cement blend. Binary cement blends consist of two primary components – portland cement blended with either slag cement or granulated blast furnace slag (Type IS), a pozzolan (Type IP) or limestone (Type IL). Ternary cement blends consist of three components – portland cement blended with either a combination of two different pozzolans, slag and a pozzolan, a pozzolan and a limestone or slag and a limestone.

Additionally, ASTM C1195, "Standard Performance Specification for Hydraulic Cement" outlines performance-based requirements for blended cements.

WHAT'S IN A BLEND?

Both binary and ternary cement blends can have varying amounts of portland cement, slag, pozzolanic material and limestone. Portland cement does not always make up the greatest proportion of material in blended cements; however, portland cement is always the majority ingredient in limestone cement.

The naming convention for blended cements clearly states the target percentage of slag, pozzolan and limestone in the blend, shown in parentheses after the type designation:

- **Type IS(X)**
- **Type IP(X)**
- **Type IL(X)**
- **Type IT(AX)(BY)**

BINARY BLENDS

"X" and "Y" refer to the nominal mass percentage of the non-portland cement ingredients in the cement blend.

For example, a binary blend Type IL(10) cement contains 90% by mass portland cement and 10% by mass limestone and a binary blend Type IP(15) cement contains 85% by mass portland cement and 15% by mass pozzolan.

TERNARY BLENDS

Because ternary blends contain two other cementitious materials other than portland cement, the letters "A" and "B" are used to indicate which other materials are in the blend. "A" refers to the material in the greater amount while "B" refers to the material in the lesser or equal amount.

As with binary cement blends, "X" and "Y" refer to the nominal mass percentages of the non-portland cement ingredients. For example, a ternary blend Type IT(S15)(L10) cement contains 75% by mass portland cement, 15% by mass slag and 10% by mass limestone. A ternary blend Type IT(L10)(P10) cement contains 80% by mass portland cement, 10% by mass pozzolan and 10% by mass limestone.

BLEND PROPORTIONS

Blended cements have set proportion requirements for the constituent materials in the blends, just like ASTM C150-compliant cements have required minimum and maximum amounts of ingredients to ensure consistency in chemical composition and the cement behavior.

BLEND APPLICATIONS

Type IL, IS(<70), IP and IT(S<70) are general purpose cements, meaning they can be used in most any application where special properties and behaviors are not desired or required. Additionally, Type IL cement can be produced with optional special properties, as indicated by the applicable suffixes: moderate or high sulfate resistance (MS or MH), moderate or low heat of hydration (MH or LH), high early strength capabilities (HE) or air-entraining characteristics (A).

Chemical property consistency

All concrete raw materials must conform with specific industry standards that set forth strict requirements for quality, purity, chemical composition, fineness and size, among other characteristics, to ensure consistent properties and predictable behavior in concrete mixes.

Material standards outline rigid ranges of acceptable values for certain characteristics. Slight variations in material characteristics can occur naturally because of regional geology and the source and process by which some materials, such as fly ash, are produced. Any slight variation in material properties – even within the acceptable ranges outlined in the applicable standard – could lead to minor variations in the material's behavior. Reducing material variability and variation in sources and processing, as with limestone cement, can help improve material consistency and predictability.

PRODUCTION CONSIDERATIONS

ASTM C595-compliant Type IL cement is considered general purpose cement, meaning it can be used in most applications where special properties and behaviors are not desired or required.

Additionally, limestone cement typically performs similarly to ASTM C150-compliant Type I cement, largely because the majority of the limestone cement makeup (85-95%) is ordinary portland cement while the remainder of the composition is limestone. Despite their similarities, Type IL and Type I cements are not necessarily interchangeable.

Limestone cement particle size

Limestone is softer and easier to grind than cement clinker. Therefore, when limestone is interground with portland cement, the limestone particles tend to constitute the majority of the smaller particles in the resulting blended limestone cement. Incorporation of smaller particle sizes can improve the limestone cement's particle packing and overall particle size distribution by providing a more well-graded assortment of particle sizes.

"When limestone is interground with portland cement clinker, it is important to recognize that the Blaine fineness of the finished cement will generally be higher than the portland cement since the limestone is softer and more easily ground," Tennis, Thomas and Weiss wrote in 2011.

Water demand, workability and bleeding

The greater the proportion of limestone in the limestone cement blend, the greater the Blaine fineness tends to be. A higher Blaine fineness

corresponds to greater total particle surface area by weight of material, which can cause an increase in water demand and a reduction in workability.

However, there is conflicting data on this subject. A 1993 study Schmidt et al – "Blended Cement According to ENV 197 and Experiences in Germany" – showed that portland-limestone cement concretes displayed increased workability when the cement blends contain 13% to 17% limestone. A 1994 study by Matthews – "Performance of Limestone Filler Cement Concrete – reported that portland-limestone cement concretes made with" cement blends containing less than 25% limestone required increased water-to-cement ratios (w/c) of about 0.02 to maintain workability.

Bleeding in concrete is attributed to the water content, mix design proportions, particle size distributions of both aggregate and cementitious materials and the depth of the concrete section, among other factors. According to Tennis, Thomas and Wiess, similar to concretes made with only ordinary portland cement, bleeding rates in limestone cement concrete decrease with increased limestone cement fineness.

Concrete set time, heat of hydration and strength development

Raw material particle sizes affect numerous fresh and hardened concrete behaviors. The smaller overall the particle sizes, the greater the total particle surface area is. Greater total surface area relates to expedited chemical reactions since there is more surface area where products can come in contact and react with one another. As a result, cement hydration reactions can occur at a faster rate when cement particle sizes are smaller.

Photo courtesy of Cemex

Even experienced precasters will have difficulty telling the difference between Type I/II cement and Type IL cement in their powdered form. This emphasizes the need to properly label, store and handle these very similar looking materials.

Similarly, set times for limestone cement concrete are strongly related to the limestone's particle fineness. As with ordinary portland cement, as limestone cement's particle fineness increases, set times decrease. Additionally, the lower the limestone content in the blended cement (closer to the minimum allowable 5% by mass), the less impact the limestone has on set times, while the greater the limestone content in the blended cement (closer to the maximum allowable 15% by mass),

the greater impact the limestone has on set times.

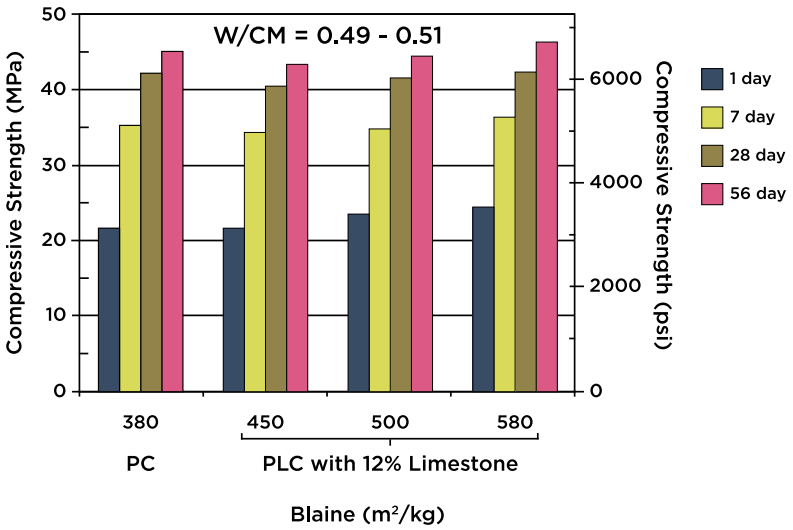
The use of limestone cement also can affect hydration rates in other ways. Fine limestone particles can act as nucleation sites that can promote further silicate hydration.

For comparison, ASTM C150 outlines set times for Type I cement mortar of no less than 45 minutes and no greater than six hours, 15 minutes, while ASTM C595 outlines set times for Type IL limestone cement mortar of no less than 45 minutes and no greater than seven hours.

Heat of hydration typically is slightly reduced in limestone cement concrete. However, the reduction is not proportional to the reduction in portland cement content. According to Tennis, Thomas and Weiss, "Heats are generally increased when limestone is used as an addition to concrete but decreased slightly when the limestone is used as a replacement for cement. However, it does not decrease to a point where the limestone can be considered to be completely inert."

All other factors held constant, limestone cement generally can produce slightly lower compressive strengths when compared to concrete made with ordinary portland cement, because the proportion of portland cement is reduced. This is referred to as the dilution effect.

However, other variations of limestone cement, including high early strength limestone cement, and mix design modifications can be incorporated to counteract some of the potential strength reduction. Additionally, limestone particle fineness plays a significant role in long-term concrete strength development. Figure 1 (below left) demonstrates how limestone cement concrete's compressive strength can surpass that of ordinary portland cement concrete as the limestone's Blaine fineness increases.



Source: Thomas et al. (2010b)

Figure 1: Effect of surface area (Blaine) on the strength of concrete (w/cm = 0.49 to 0.51) produced with portland cement (PC) and portland-limestone cement (PLC) with 12% limestone.

WHAT NOW?

If your cement supplier has provided notice that production of Type I cement will be discontinued in favor of producing Type IL cement, start preparing now for the change.

Request a copy of the limestone cement mill certificate in advance, obtain a copy of ASTM C595 to review the specifics and consult the admixture supplier regarding how the change could affect mix design, production processes, curing, strength development and other factors.

The impacts of using Type IL cement are generally not significant, but the two most likely variations that could occur include slightly reduced early-age strengths and a slight increase in water demand. There are a variety of straightforward ways to counteract both.

Produce trial batches of each mix design using the Type IL cement and develop new initial mix qualification documentation for each mix design that states target fresh and hardened concrete test data along with allowable tolerances. Observe how concrete behaves in different applications, different forms, with varying reinforcement assemblies and in different ambient conditions.

Also, be sure to talk to customers proactively about what Type IL cement is, how it's similar and different to the previous cement to which they are accustomed and what they should expect from you as the precaster.

NPCA's technical services team can help review and revise specifications as needed to adapt to these changes and can assist with any other inquiries you may have. Contact us today: technical@precast.org or (800) 366-7731. **PI**

Kayla Hanson, P.E. is the NPCA director of technical services.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Technology and processes change rapidly, and plants that adapt to new realities have a distinct advantage over competitors. That is why it is so important to establish a routine where everyone – from floor workers to the front office – examines how and why things are done.

The Continuous Improvement JOURNEY

By Phillip Cutler, P.E.

Continuous improvement is the ongoing enhancement of products, services and processes. Improvements can be incremental over time or a breakthrough that happens all at once. The key is positive change.

Precast concrete manufacturing facilities should build a continuous improvement plan into their long-term strategies, because while jobs begin and finish, continuous improvement is ongoing and evolutionary.

NPCA RESOURCES DESIGNED TO HELP

Henry Ford once said, "If you always do what you've always done, you'll always get what you've always got."

The late Greg Chase often used that quote while teaching the Production and Quality School Level III Leadership course. Chase used it to emphasize concepts related to precast plant management principles. These words apply now more than ever.

NPCA resources developed during the past few years support these principles in order to help member facilities.

In 2019, the NPCA Quality Assurance Committee adopted a continuous improvement section (1.1.4) and a companion section (2.5) into the NPCA Plant Terms and Conditions.

Section 1.1.4 outlines four areas – production, processes, facilities and operational – where continuous improvement efforts should focus. The committee recommended that plants, at a minimum, take part in at least two of the three following areas to be considered for continuous improvement points:

- **Actively participate in the NPCA producer portal.**
- **Conduct semi-annual self-audits.**
- **Educate plant staff beyond quality control personnel.**

Section 2.5 provides guidance on how continuous improvement is scored, with additional clarification available within the 15th edition (January 2022) of the NPCA Quality Control Manual for Precast Concrete Plants.

Since that time, many NPCA members have incorporated continuous improvement activities and have observed positive results beyond the direct changes.

POSITIVE CHANGE IS FELT BY EVERYONE

Continuous improvement does not have to be revolutionary or involve expensive new equipment. It can be as simple as how staff members answer the phone, make shop drawings or design structures. It can build upon current practices for precast product manufacturing, loading, delivery or storage.

Anything that benefits all staff members – whether a primary, secondary or tangential participant – fits within this definition.

From management and engineers to drivers and the maintenance crew, any department can improve how it does things. Experience is the best teacher and often is a steppingstone toward improvements.

Inland Northwest Precast in Newman Lake, Wash., conducts continuous improvement activities, and Director of Quality Assurance Greg Papich likes what he sees.

Inland Northwest utilizes the NPCA producer portal to store pertinent documents and materials certifications as well as to

NPCA file photo

Improvements at a precast concrete facility don't always have to be limited to a new mix design or more effective placing techniques. Billing, inventory and customer service also require regular review that can lead to better efficiencies.

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More information regarding the schedule and how to register is available at **theprecastshow.org**.

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THE PRECAST SHOW 2022

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Spread testing is a critical requirement for certified plants with a minimum frequency and something that can be done at intervals beyond requirements to enhance mix performance and efficient use of resources.

schedule shutdown dates when critical personnel are not available. The portal also assists in organizing contact information and other items critical to annual certifications.

"We really enjoy using the portal," Papich said. "Not only does it make things easier for our annual audits, but it also is great for organizing our QC documents. We have found that the semi-annual self-audits force us to always have processes in place that will assist in having our plant operate at a high level."

Since implementing continuous improvement, Inland Northwest has noticed an improvement in the physical appearance and organization of its plant. Important plant documents and records are stored on computers instead of in binders, folders and overflowing filing cabinets. This also makes the annual unannounced certification audit smoother for plant personnel, since all the records are stored in clearly labeled electronic files and personnel quickly and easily can direct the auditor to the necessary files.

The NPCA Producer portal also serves as a conduit to continuing education.

"This empowers our employees at every level," Papich said.

By truly including everyone, ideas become infectious and intellectual involvement grows, said Andrew Nashawaty, general manager of Scituate Concrete Products Inc. in Marshfield, Mass.

"Take education for instance. We have had a few employees take some classes, and they advance in the company," Nashawaty said. "Others see that, and now we have over half of our Marshfield plant employees asking for additional education.

"Employees have gained confidence through all of their NPCA PQS educational exposure and experiences. We have multiple employees enrolled in Precast University working toward Master Precaster."

And this leads to results.

"Our mix designs have improved significantly from ideas off the floor," Nashawaty said.

> "Employees have **gained confidence** through all of their NPCA PQS educational exposure and experiences. We have multiple employees **enrolled in Precast University** working toward Master Precaster."
>
> Andrew Nashawaty, *Scituate Concrete Products Inc.*

START SMALL, BUILD TO BIG

Knowing where to start can be the most difficult step for many companies. Papich said start small and work from there.

"You have to come to the realization that this is exactly what the program says it is: 'continuous improvement,'" he said. "If you are continually improving, then it will always be positive."

Inland Northwest started by bringing employees into a room and having roundtable discussions on what naturally improves over time and what could use some help. By talking to production and QC personnel, management realized that there are many processes in place that were not as efficient or effective as they could be.

The company considers opinions from every level of the workforce – from the newest employee to the most experienced veteran.

"We do not treat this program like 'extra credit,' " Papich said. "It is mandatory, so it forces us to always be looking to make our plant the best plant in the country."

An important and often overlooked key to successful improvement is total commitment by management and a willingness to empower and encourage the workforce with support and enthusiasm, Papich said. No improvement idea is too small or insignificant. In fact, a series of small, incremental changes often are more manageable and sustainable than a standalone breakthrough event.

"Embracing change is a key to successful implementation," Nashawaty said. "Sometimes, just the initial thought of continuous improvement seems so daunting. 'We don't have the staff. We don't have the time or resources.' These things couldn't be farther from the truth. Just get in there and try it.

"After three years in, we can't imagine our business without active participation in continuous improvement efforts."

Ideas drive businesses, plant processes and culture to change and evolve. To get started, all it takes is an open mind and the courage to try. **PI**

Philip Cutler, P.E., is the director of quality assurance programs at NPCA.

NPCA file photo

Build Relationships Early to Give Your Company an Edge

Being a **reliable resource for local specifiers** often can make the difference with how bids are written.

By Chris Frederick

A job comes up just around the corner from your precast plant. You diligently prepare your bid. Then the time comes when you learn the winning bid does not include precast concrete.

Upon further review, you find that the owner agency is not familiar with the far-reaching benefits precast concrete could offer over alternative materials and how precast could be the perfect material for the job.

The lesson to take from it: Don't let it happen again.

Investing a little bit of time in advance talking to local specifiers and building relationships is just as important as crafting the perfect bid. Educating decision-makers on the benefits of precast not only gets your foot in the door, it also creates the level playing field you want to play on.

THE TIME IS NOW

With the infrastructure bill signed and funding being distributed, there has never been a more valuable time to promote precast concrete.

This is a critical step to promote opportunity and growth within the industry.

You are busy. Everyone is. Spending that extra time up front may seem like a huge investment, but it doesn't have to be. Events such as Precast Days increase access to the decision-makers and influencers with whom you need to connect.

To be successful, however, a year-round, consistent communication effort is necessary.

Leo Feuerstein embraces this approach. As operations manager at Western Precast Concrete Inc. in El Paso, Texas, Feuerstein knows the importance of outreach, education and creating connections with specifiers. He has done it throughout his 37 years with Western.

"Dropping by their offices for lunch and learns, being available as a resource-problem solver and supporting community initiatives the firms are backing are all important ways of building and solidifying specifier and producers' relationships," Feuerstein said. "The only way to accomplish this is getting out and getting to know your local specifying community.

"It is impossible for us as manufacturers to think the engineer or specifier would have the knowledge that we do in the precast industry."

INVITE SPECIFIERS TO YOUR FACILITY

Like manufacturing a quality precast product, extra care and attention to detail can create the end result you are seeking.

Feuerstein opens his appointment calendar to specifiers and consistently makes Western available for tours and drop-bys.

"We on a regular basis have engineering firms in our plant for plant tours to 'see how it is made,'" he said. "That is an experience each engineer takes back to his or her office with a new vision of precast concrete, strength, durability and conformance to specifications and quality."

Through gestures as simple as these, the specifying community will begin to look to you as a resource when complex situations arise.

Feuerstein recalls one such payoff. On a project for the University of Texas at El Paso, a school official turned to Western to assist in designing several large communication vaults for a development on campus. During the design phase, Western provided calculations from its staff engineer on structural design and loading for the vault's slab thickness.

Simply by being a trusted resource when the plans came out for bid, the drawings and structures were included as "Provided by Western Precast Concrete or equal."

Relationships take time and effort, whether personal or professional. And there is no one-size-fits-all approach.

But if you are willing to put in the time and effort, you will begin to build long-lasting connections with local specifiers and become a valuable resource. This will pay off in dividends – just as it has for Feuerstein and Western. **PI**

Chris Frederick is the senior director of membership and regulatory service at NPCA.

NPCA file photo

Taking the initiative to talk ahead of time with specifiers in your area about precast concrete pays off in dividends down the road.

NPCA's NEW Onboarding Program

is Built to Strengthen your Workforce

By Claude Goguen, P.E., LEED AP

NPCA file photo

44.9%

of Precast Industry Leaders say that **retaining employees** is their No. 1 challenge during the next five years.

Source: 2020 NPCA Precast Industry Benchmarking Report

Finding good employees and keeping them has become a major challenge for most employers, including those within the precast concrete industry.

In the 2020 NPCA Precast Industry Benchmarking Report, company leaders were asked about the most significant challenge businesses will face during the next five years. Of the respondents, 44.9% replied that retaining employees is No. 1.

Not long ago, precast concrete manufacturers were forced to lay off employees during slower times because of a lack of work. Today, many precast producers find themselves turning down projects and other opportunities during a good economy, in part because of a lack of employees to complete the work.

The precast concrete industry is not alone. Manufacturing sectors across the spectrum face the same challenges. According to the Association for Manufacturing Excellence, the average U.S. manufacturing employee turnover is about 37%, meaning more than a third of all workers leave each year. Within the precast concrete industry, when it comes to hourly workers, that number jumps to 54%.

Companies are looking to turn this trend around. An effective strategy to recruit qualified employees in a fiercely competitive market is critical, and making a workplace more appealing to new recruits while properly training and motivating them helps reduce employee attrition.

The best way to do that is through the newly launched NPCA Onboarding Program, which offers the road map and tools that members are looking for.

NPCA file photo

The average U.S. precast industry **employee turnover rate** for hourly workers is

54%

Source: Association for Manufacturing Excellence

WHAT IS ONBOARDING?

Onboarding is the process of introducing newly hired employees to your organization's expectations, behaviors and culture while providing the training and motivation to efficiently become a productive part of the team. The NPCA Onboarding Program includes orientation, training and performance assessments from the moment of hire to the first year of employment and beyond. The program supports candidates who are good fits for the jobs they are hired to do and helps identify others who may be miscast.

But most important, it provides a structured, consistent means of appealing to the kind of employees that companies are competing for.

KNOW YOUR WORKFORCE

In order to maximize the Onboarding Program's impact, it is important to know the prospect pool. The people applying for work at precast concrete facilities have changed significantly during the past 30 to 40 years.

NPCA file photo

A good wage and attractive benefits remain important, but in this competitive hiring environment, it takes more to attract and keep today's candidates. The more you know about their preferences and motivations, the better you will be prepared to offer the opportunities they are seeking.

An open mind is an important first step. Branding young candidates as "lazy" and "entitled" is a self-sabotaging behavior. Move past those stigmas and focus on finding a balance that appeals to their priorities while still emphasizing loyalty and performance.

The largest percentage of potential employees available in the United States are millennials – also known as Generation Y. Members of this group were born between 1985-95 and represent about a third of today's workforce, according to a report by the Pew Research Center. This proportion will continue to grow as older generations retire.

The next largest group of potential employees is Generation Z, who were born from 1996 onward. Gen Z and millennials have a few main characteristics in common: Both groups are very comfortable with modern technology, and many expect a technology-driven application process. They also share the need to know the deeper purpose of what they do.

For example, telling a millennial or Gen Z candidate that you make septic tanks and grease interceptors may not seem motivational to them. Instead, say: "We produce wastewater treatment products that help protect the environment."

THE MILLENNIAL AND GEN Z MINDSET

Millennials prefer a well-structured training program that caters to the need for skill development and potentially could lead to future career advancement, including leadership positions. Consider allowing them to work remotely if their job responsibilities can be completed outside the office.

Millennials care about performance quality and judge their managers by the content of their work. They, in turn, want to be judged for their results – not for the hours they spend on the phone, in the office

NPCA Onboarding Program

Hiring, training and retaining a workforce is a major challenge for every company. That's why NPCA has developed an Onboarding Program with resources that provide each new hire a head start.

Through a yearly subscription, facilities receive a comprehensive guide for employers that contains details on every phase of onboarding alongside checklists and a handy glossary of industry terms for the new hires. The program also provides access to a series of tailored videos that introduce new hires to the precast industry and train them for a variety of manufacturing roles.

The videos fall into three categories:

- **INTRODUCTORY VIDEOS** are designed to be viewed by recently hired employees or candidates considering a career in precast. Videos such as "A Day in the Life of a Precaster" and "Introduction to the Precast Industry" provide a general window into what precasters do.
- **DEVELOPMENT VIDEOS** assist new employees who have some exposure to their roles and responsibilities and are ready for additional information and guidance on precast manufacturing.
- **ROLE-BASED VIDEOS** help new employees who are filling specific manufacturing roles or even not-so-new employees who are changing roles. Videos cover topics such as reinforcement assembly, form release application, finishing and product inspection.

NPCA file photo

or on the production floor. When communicating about work with millennials, it is best to take a transparent approach, making sure to invite questions and feedback.

Gen Z candidates typically are attracted to companies with a strong social media presence. They are more comfortable communicating digitally and may find face-to-face interactions less comfortable than instant messaging, email or texts.

Both generations prioritize job security and tend to seek some flexibility in their work schedules. They also will look for opportunities to add input on process improvements.

KEY STRATEGIES FOR SUCCESSFUL ONBOARDING

It is important to understand the difference between orientation and onboarding. Most companies already have an orientation program, but orientation tends to be a one-time event, typically lasting a few hours or the full first day. Onboarding is an ongoing process that starts on Day 1 and can extend through the employee's one-year anniversary.

An orientation program can be part of onboarding but does not replace it. Companies should have their own specific, structured onboarding programs and policies in writing to ensure consistency.

To effectively onboard a new employee, consider these four important factors:

- **Service.** Conveying company culture, values, processes.
- **Success.** Expectations, goals, what does success look like.
- **Social.** Building trust with the new hire, establishing connections.
- **Safety.** Ensuring the risks associated with new hires is minimized, and they feel safe.

CONSTANTLY CONVEY COMPANY CULTURE

Every employee's first day should include hearing a story that truly conveys the company's identity, but this is just the first of many opportunities to do so.

For example, if you care about your employees and treat them like family, make that a consistent part of the messaging during safety toolbox talks or during performance assessments. Most importantly, demonstrate it early and often.

Another consistent message is how the company is committed to quality. This is an effective way to get employees invested in what they do by reminding them of the deeper purpose of every policy and procedure.

PROVIDE CLEAR EXPECTATIONS

The precast concrete industry is filled with stories about hiring new employees only to have them not show up for Day 2 or, worse yet, leave before their first shift is over. One potential reason is the employee's expectations were vastly different from reality.

This is why it is crucial to effectively convey early in the recruitment process what the work entails. Don't assume that new employees know what they will be doing or that they can pick it up easily as they go. Along with the "what," show them the "why."

Teach new employees about the industry in general and then about the company's history in specifics. Develop a video of plant operations and each phase of manufacturing. Show them completed projects so they can link a purpose to the job.

DESIGNATE A PEER MENTOR

Younger candidates, especially Gen Z, desire an opportunity to participate in highly collaborative management/coworker relationships. They look for leaders to establish a strong overall mission and set an example to help them learn and grow.

These mentors do not always have to come from middle management, though. Other, more seasoned employees can fulfill some of these roles.

Consider assigning a current employee as a peer mentor for each new hire. New employees can shadow peer mentors for the first few days to help introduce them to other personnel while guiding them through day-to-day routines, including breaks and lunch. This benefits new employees but also provides a boost of confidence and heightened responsibility to the assigned peer mentors. As peers, the mentors also can provide new hire feedback from a unique perceptive that managers don't always see.

COMMUNICATE OFTEN

Many companies have established policies of evaluating employees after 90 days. The next opportunity for providing feedback usually comes after one year on the job.

Be prepared for a change.

Younger generations are used to instant feedback and expect to hear about how they are doing on a frequent basis.

This requires more consistent communication between management and new employees. The communication, however, does not always have to be face-to-face. Providing an occasional text is well-received by these digital professionals. Using gamification strategies where new employees are awarded points for training and performance

Be prepared for change. Younger generations are used to **Instant Feedback** and expect frequent communication.

benchmarks also can be an effective method of providing feedback.

NO BETTER TIME TO START

Developing or upgrading a company-specific onboarding program should be a high priority for every NPCA member facing workforce development challenges.

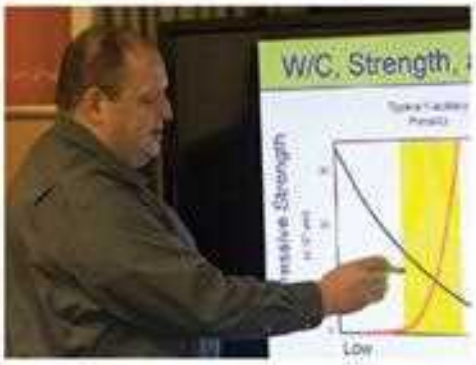
A consistent and thorough onboarding program is a proven strategy to lower employee attrition while enhancing staff performance and morale. It just takes a commitment from management to develop a plan and stick to it.

Every candidate is different, just as every facility is different. Some strategies will work better than others for your specific facility and scenario, and the lessons you learn can be used to continually strengthen the onboarding experience for the next candidate.

For more information on the NPCA Onboarding Program, contact NPCA Professional Development Coordinator Melissa Newton at mnewton@precast.org or (317) 582-2327. **PI**

Claude Goguen, P.E., LEED AP, is NPCA's director of outreach and technical education.

NPCA file photo



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Email NPCA Professional Development Coordinator Melissa Newton at mnewton@precast.org to register or learn more.

NPCA
National Precast Concrete Association

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GOING THE EXTRA MILE:

Overtime Safety

NPCA file photo

Overtime is a necessity for most NPCA-member facilities. Remember to take the necessary steps to ensure safety and security within those extra hours.

Working overtime is a reality in the precast concrete industry. Follow these best practices to maximize worker engagement.

By Mason Nichols

The COVID-19 pandemic has had a seismic effect on industries across the United States and around the globe. Supply chain shortages have severely limited the worldwide availability of everything from computer chips to toilet paper, exercise equipment and construction materials.

For business owners, the pandemic also has led to lagging workforce numbers, exacerbating an issue that began pre-COVID. A recent Job Openings and Labor Turnover Survey issued by the U.S. Labor Department indicated 10.4 million job openings as of August 2021 and not enough job-seekers to fill all of those spots.

To compensate for the lack of available talent and keep up with the required work, precast concrete facilities often rely on offering overtime hours to their employees. But while overtime work can help companies keep pace with busy production schedules, it also can present potential safety concerns for team members who experience heightened levels of stress and fatigue.

POTENTIAL OVERTIME HAZARDS

According to OSHA, "worker fatigue increases the risk for illnesses and injuries," with research finding that "working 12 hours per day is associated with a 37% increased risk of injury."

Debra Hilmerson, president and CEO of Minnesota-based safety product design and manufacturing firm Hilmerson Safety, has worked in the precast and construction industries for more than three decades. She often logged overtime during her time as a production crew member and field laborer, and her experience mirrors OSHA's metrics.

"Common sense would tell you that if you're working too much overtime, your ability to operate at a high level is lessened," Hilmerson said. "And it doesn't matter how good of shape you're in. Everyone has a point of diminishing return."

OSHA and the Fair Labor Standards Act classifies overtime as any work over 40 hours in a seven-day period. A consistent workload greater than 40 hours per week can affect the ability to think clearly and function efficiently, according to OHSA. This leads to a heightened potential for workers to put themselves in situations that could lead to injury.

"When you get to the end of a day, you might be 10, 11 or 12 hours in, you can see the finish line," said Logan Brutcher, environmental health and safety coordinator at Norwalk Concrete Industries (NCI). At that point, fatigue may set in and put employees at a higher risk.

Excessive hours also can lead to an increased sense of complacency, a feeling of confidence that develops when a person repeatedly performs a task with success. One potential side effect of that contentment is unawareness of associated dangers and deficiencies. For example, at the end of an overtime shift, a production team member might substitute a tool typically used for an operation with a similar one that is close by to avoid a longer trip across the plant floor – even if the swap deviates from standard operating procedure.

There are longer-term effects of consistent overtime work as well. Studies show that fatigue can lead to heart disease, stomach and digestive problems, sleep disorders and more. Mental health also can suffer, with some employees experiencing depression and anxiety.

> **Worker fatigue** increases the risk for illnesses and injuries, with research finding that working **12 hours per day** is associated with a **37% increased risk** of injury.
>
> OSHA

BUILD A SOLID FOUNDATION OF SAFETY

Despite these potential issues, there are numerous strategies to mitigate the negative effects of overtime work for a team. It begins with establishing a strong safety culture.

"The No. 1 thing that we start with is safety orientation," said Victor Layne, project manager at Lindsay Precast and a National Precast Concrete Association Safety Committee member.

NPCA file photo

> "It all comes back to a caring attitude. **Remind your team members of their worth** and how much you **appreciate** them busting their tails to get the job done."
>
> Debra Hilmerson, *Hilmerson Safety*

"Safety is a critical component of our initial training, which then extends out into the hands-on, one-on-one education that occurs afterward in the shop."

Brutcher said NCI takes a similar approach from the get-go.

"We have a three-week program for all our new hires," he said. "During this initial training, we talk about tool safety, the importance of personal protective equipment, overhead crane safety and more."

Both Layne and Brutcher referenced the importance of robust safety programs that extend beyond an employee's first few weeks on the job. A wide-reaching approach not only educates workers about the breadth of safety topics to be considered, but it also helps employees keep safety top of mind in day-to-day operations.

Layne recommends the NPCA website for its deep reservoir of materials to help get started, including a series of safety training videos, bi-monthly safety training posts, webinars and an archive of focused articles from Precast Inc. magazine.

Facilities also should establish a production schedule that matches the level of on-site support. Plants taking on more work than the business typically accepts must plan for additional hours to complete projects. This not only can help with safety precautions but assists in maintaining quality as well.

"We keep a tight overview of scheduled hours," Layne said, "Advanced forecasting allows us to adjust the schedule as needed to accommodate our projects – we might back off the hours if we see that things are getting unmanageable."

Brutcher agrees.

"There are days where our work ends up taking an extra hour or two," he said. "But that's something that we seek to control through our production schedule rather than having to extend our overtime plant-wide. That way, we don't have to push our team to 12, 13 or 14 hours in a day, because when that happens, we know safety risk exposure will rise."

BALANCING OVERTIME WITH EMPLOYEE WELL-BEING

Simple adjustments to a worker's lifestyle can pay dividends when it comes to maintaining safety during overtime work.

Hilmerson said it is imperative to remind production staff about the importance of eating healthy and getting enough sleep each day – a message to integrate into both onboarding and ongoing safety training throughout the year. At NCI, these discussions have shown to be effective.

"We've talked about diets, good habits and what a solid night's sleep can do for you," Brutcher said. "Overall, we're just trying to help our team members put themselves into a position where they're feeling better and have a bit more energy so that they can fight any fatigue they might experience toward the end of the day or a long work week."

Another method that helps raise energy levels and prepare employees for the day is stretching or as some companies refer to it: stretch and flex. The idea is simple. Engage the group in guided, moderate movement to begin the day to make the body and brain more alert.

"High-performing athletes succeed because they prepare their bodies mentally and physically," Hilmerson said. "Construction workers are essentially industrial athletes and need to do the same. I've implemented stretching programs for decades with high levels of success."

Layne said that Lindsay Precast has standard operating procedures (SOP) in place for every plant task. So, whether stripping a form or using a crane to move a product from one part of the plant to another, there are set routines to follow. SOPs help ensure consistency – whether someone has been at work for eight, 10 or 12 hours.

The Lindsay team pairs these SOPs with job hazard analyses (JHA) – techniques that focus on job tasks as a way to identify hazards before they occur. When SOPs and JHAs are used in conjunction with one another, they give employees peace of mind that work will be performed safely no matter what the situation.

To help put team members in the right mindset and to remind them of their value during busier times, Hilmerson, Brutcher and Layne all suggest providing lunch for plant workers. Doing so sends a clear message of care from leadership and an indication of the value associated with hard work performed efficiently, effectively and, most important, safely.

IT ALL COMES DOWN TO CARE

Overtime is unavoidable at times. And while the risk of potential accidents and injuries statistically increases as employees work longer hours, overtime work can be performed safely.

Start team members off right by building a solid foundation for them through initial safety training during onboarding and ongoing safety training throughout the year. Develop a production schedule that balances the amount of work taken on with the available workforce. Above all else, establish a strong safety culture and show care and compassion for the work of your team.

"It all comes back to a caring attitude," Hilmerson said. "Remind your team members of their worth and how much you appreciate them busting their tails to get the job done. Showing that level of care is incredibly valuable and will go a long way to ensure safer operations for everyone." **PI**

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

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Built on Teamwork

Mack Industries thrives under third-generation leadership, which embraces a legacy of **teamwork and innovation** to better serve their customers.

By Heather Bremer

Photos courtesy Mack Industries

Betsy Mack Nespeca (center) is joined by team members at the Mack Industries facility in Bowling Green, Ohio. The plant has a long history of perfect NPCA certification ratings, including a current streak of seven years in a row.

John Mack founded Mack Industries in 1932.

His son, Dick Mack, took over the precast burial vault and septic business in 1958 with just two employees.

In 2000, Dick's daughter, Betsy Mack Nespeca, became the third generation to lead the company.

But she didn't always envision things working out that way.

After earning a business degree, Betsy worked outside the industry, looking to make a difference wherever she was. So, in 1993, when her dad came recruiting Betsy, her brother Howard and her husband, Chris, back to the family business, she saw it as an opportunity to accomplish her career goals from inside a company she grew up loving.

"I was fortunate to be given the freedom to make improvements," Betsy said. "Then by asking questions and taking on improvement projects, I became a resource for my dad, who was running the company. As he pulled me closer, I got more responsibilities."

Dick appointed Betsy as president of Mack Industries in December 2000. Six months later, he died unexpectedly. The pressure reached a whole new level as Betsy now led the company without her father while raising two small children.

"I felt a deep commitment to the team of people that count on Mack for their livelihood and a drive to not just grow the company but to make it better on my watch," Betsy said. "I believe in servant leadership, more of a keeper of our mission than a directive boss leader. I always strive to make a positive difference, preserve our core and serve."

During the past 20 years, Mack Industries has prospered under Betsy's leadership, with eight facilities in five states and nearly 600 employees. Betsy said the company's success is based in its mission of promoting teamwork, customer satisfaction, always improving and thinking long-term.

"We want to make something built to last – whether it's the concrete products we create, the relationships we build or the company itself," Betsy said.

LIKE FATHER, LIKE DAUGHTER

Jim Thompson is a Mack Industries lifer. He spent 47 years at the company before retiring in May 2020. He worked under Dick Mack in sales and sales management.

Dick Mack

"He [Dick Mack] was gifted at hiring and placing people into the right roles and challenging us all to be our best."

Betsy Mack Nespeca, *Owner, Mack Industries*

After Betsy took over, Thompson served as general manager and vice president.

"Betsy took Dick's philosophy of company growth, growing people and being the best you can be to the next level," Thompson said. "She puts her nose to the grindstone and works at it. She doesn't just expect it to happen."

Another of Betsy's skills is her ability to listen.

Chief Operating Officer Henry Lee, who has been with Mack Industries for five years, calls Betsy an "athletic listener." He says she understands that the organization as a whole has a collective knowledge and perspectives to be shared. Betsy knows there is no single playbook on how to serve their varying markets, and she depends on the people in those places to know what their clients need.

"She takes a great approach for bringing people together, going out to get information, asking the right questions while coaching other people to ask the right questions," Lee said. "Because you're the general manager doesn't mean that you are significantly more capable of creating and formulating a plan as your collective team might be."

Betsy's leadership now extends to NPCA. She was elected to the NPCA Board of Directors at the 2021 Annual Convention in Colorado Springs, Colo., and intends to help the industry strengthen its collective ability to attract and develop talent.

"I believe we have a lot of work to be done to support our members' ability to attract talent and labor into our industry," Betsy said. "We all have challenges managing material cost escalation, extended lead times and supply shortages. Attracting and developing talent to fuel our businesses will prove to be most challenging of all."

An entire box culvert run from Mack Industries is transported in one load.

FOCUS ON THE TEAM

Betsy also embraced her father's philosophy of building a strong team.

She said her father always wanted to be a coach and envisioned Mack Industries as one team working toward a common goal.

"He was gifted at hiring and placing people into the right roles and challenging us all to be our best," Betsy said.

While it would be easy to assume the company's family atmosphere

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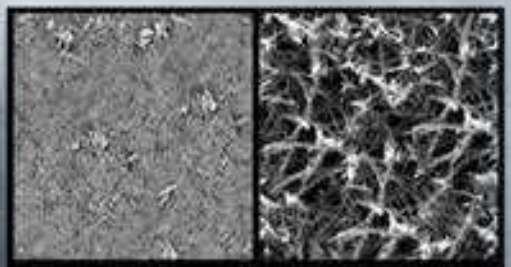

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hinges on now having four generations of the Mack family involved, a deeper look shows there's more to it.

Thompson saw genuine camaraderie between the employees and owners throughout his tenure.

"I felt my whole career that the Mack family was just part of my family," Thompson said. "And the thing that I really liked was there was always a quest for wanting to grow, wanting to do more. It was done in the right way as far as being good to employees. You're part of the team."

The emphasis on a team approach applies on the production floor. Tim Haury, general manager at the Valley City facility, stresses the family atmosphere to his team.

"I believe it comes all the way from Betsy and from Dick before that," Haury said. "This is a family-oriented place. A family that extends out to take care of customers and get the right things done for each other."

Those aren't just empty words. As the COVID-19 pandemic took hold across the country, Mack Industries reacted quickly, communicating with its teams and families about what to do, what to expect and how to keep working safely. The company's traditional Labor Day picnic was celebrated "Corona style." Coolers were packed with burgers, hotdogs and buns and distributed to the families prior to the holiday weekend.

Mack Industries is dedicated to keeping its employees healthy – even when there's not a pandemic raging.

"We have health-and-wellness days where we actually bring in a medical staff that comes in and does blood tests," Haury said. "They're offering flu shots, too. Your family members are welcome to come in during that time, so spouses can also get a medical checkup plus get a flu shot."

Elaine Ward prepares to deliver an order of precast concrete products in Michigan.

The sun rises on Mack Industries' batch plant in Florida.

> **"We know what a good day feels like, and that knowledge builds over time. The more quickly that someone can feel a part and belong, then they realize what they do matters and understand how they fit. That makes a real connection."**
>
> Betsy Mack Nespeca, *Owner, Mack Industries*

Along with taking care of the workforce, there is a constant effort to connect. Betsy believes this starts with hiring the right people who care and have potential to learn and grow, then teaching them to care about the products, the customers and the company. She wants employees aligned with a shared desire to reach the goals Mack Industries strives for.

"We try to put systems in place where people can see what success looks like," Betsy said. " We know what a good day feels like, and that knowledge builds over time. The more quickly that someone can feel a part and belong, then they realize what they do matters and understand how they fit. That makes a real connection."

HERE TO STAY

That message resonates with staff members. A look at the employee roster reveals a legacy of longevity. It is common to see men and women who have been there 20 or more years.

Regional Sales Manager John Herl, who has been with the company 26 years, likes the message that legacy sends to potential employees.

"It obviously provides people with the mindset that they know there's an opportunity for them to grow," Herl said. "There are a lot of people here who are high-school educated guys who start as an hourly employee. They're afforded, due to their achievements and their potential, the ability to move upward and onward and fill different capacities that they probably never would have felt that they would have been considered at maybe a bigger corporation."

Above: Mack Maintenance and Capital project leader Gary Weigel shakes Craig Goris' hand. Left: Kevin Shreckengost completes a setup for catch basins.

Haury is in his 43rd year with the company. He's stayed on because every day is different. He likes being allowed to think on his own and do something about things he sees need to be done.

"You are your own hold-up here," Haury said. "If you don't want to move any farther, you can stay where you're at. If you want to keep moving, you just keep grabbing that next golden ring."

Workforce longevity is a great asset to Mack Industries. In addition to on-the-job experience, team members understand their customers, their products and the capabilities of precast concrete. That knowledge is worth a heavy investment, both financially and in time.

With the right systems in place, the current information and proper equipment at their fingertips, workers can execute business better than before.

"We work really hard to not only empower team members but to help them see the results of their contribution," Lee said. "We help our teams

work together and reward team success often."

Mack Industries also utilizes NPCA's education resources to train its workforce in the latest techniques, standards and safety measure. Betsy, who has attended NPCA events for many years, always finds it is time well spent to engage members on topics or challenges she wants to explore.

"Mack Industries benefits from the enduring friendships of fellow producers and suppliers in the industry and the quality of NPCA education available," Betsy said. "There is real value in the technical training, economic outlooks, ops management, and leadership training. By focusing my conversations around these topics I gain fresh perspectives from other industry leaders."

PRODUCTS THAT SERVE

Mack Industries' mark can be seen on projects throughout its communities.

In northeast Ohio, Interstate 271 skirts the southern reaches of the Cleveland area. Haury remembers when that roadway didn't exist – and just how many times he's worked on it since its inception.

"I remember being a part of expanding it from two lanes to six lanes," Haury said. "I've been here long enough that we're actually redoing streets again. This will be the second time I've been part of redoing that infrastructure."

Mack Industries has done many treatment plants for small municipalities and towns, varying in size and cost. Thompson recalls a job for the Cleveland regional sewer district that involved a staircase built for an elevator shaft 200 feet down.

"It was so impressive to see," Thompson said. "When we finished the project, I took some of the people that helped make it happen to see it because it was just incredible to see. I brought back pictures to the people to show them what had happened and what all the pieces that they manufactured looked like."

Another impressive project required a bridge for a railroad system in northeast Ohio.

"We work really hard to not only empower team members but to help them see the results of their contribution. We help our teams work together and reward team success often."

Henry Lee, *Chief Operating Officer, Mack Industries*

Box culverts are staged to ship from Mack Industries.

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Besty Mack Nespeca (left) and Howard Mack

"I think we paid $150,000 just for the mold to make the precast to make that bridge," Thompson said. "We had a yard full of pieces, and they put that bridge together at the job site and everything fit like a glove."

A product line that started as septic tanks has evolved to include box culverts, pipe, manholes, catch basins, storm boxes, big block retaining walls, median barriers and sound walls. The list doesn't end there. Mack also has a division engaged in manufacturing and installing prestressed structural building products and hollow core floor planks run by Betsy's husband, Chris Nespeca.

"We are very diverse in the products we make," said Bill Wilson, Master Precaster and general manager for the Mount Vernon, Ohio, plant. "We will make just about anything. I think that's what is good about Mack. The depth of talent across all areas from sales, engineering, maintenance, quality and production comes together. If it can be made out of precast, chances are we are going to figure a way to make it."

BUILDING FOR THE FUTURE

Challenging itself to grow is a key part of Mack Industries' philosophy. By looking at its customers' challenges and trying to find solutions with precast concrete, Mack finds growth opportunities that actually take better care of Mack's existing customers.

"The growth challenges us to learn and develop our people and solve problems and make improvements to products and services," Betsy said. "By doing that, we keep the company moving forward. We stay humble because there is so much to learn that we don't know. It feeds an entrepreneurial spirit where we learn each year. It adds up to 90 years in business."

A company doesn't reach nine decades in existence by standing still.

"We will make just about anything. I think that's what is good about Mack. The depth of talent across all areas from sales, engineering, maintenance, quality and production comes together. If it can be made out of precast, chances are we are going to figure a way to make it."

Bill Wilson, *General Manager – Mount Vernon, Ohio, Mack Industries*

Nothing remains relevant by only looking at the past without an eye on the future.

"You become a long-term company by reinventing yourself – not completely, but by staying true to your core and being willing to take the next step, trying things and moving in new directions with the markets that you serve," Betsy said.

One way Mack Industries succeeds in this area is by thinking outside the box when it comes to employee engagement. Plant management teams walk the facility so the teams visit each department every day and listen to the issues employees are having. It gives employees a voice in operations and problem solving.

"These Gemba walks kind of put the issue right in front of us," Wilson said. "The idea behind it is we have the heads of all the departments – quality, maintenance, production, delivery. It's all right there, so whatever issue the employee has, chances are the person that can solve it is right there. And a lot of times we solve it right there on the spot."

Betsy is proud of the progress her team has made in her two decades at the helm. With a fourth generation just getting started in the industry, she believes a continued emphasis on people development and a commitment to caring for others bodes well for the company's future.

"If we're true to our core values of teamwork, paying attention to customers and making improvements, it will be a continuation of the story I'm trying to tell here, with more advancements in technology than we can even imagine today," Betsy said.

Heather Bremer is the NPCA communications manager.

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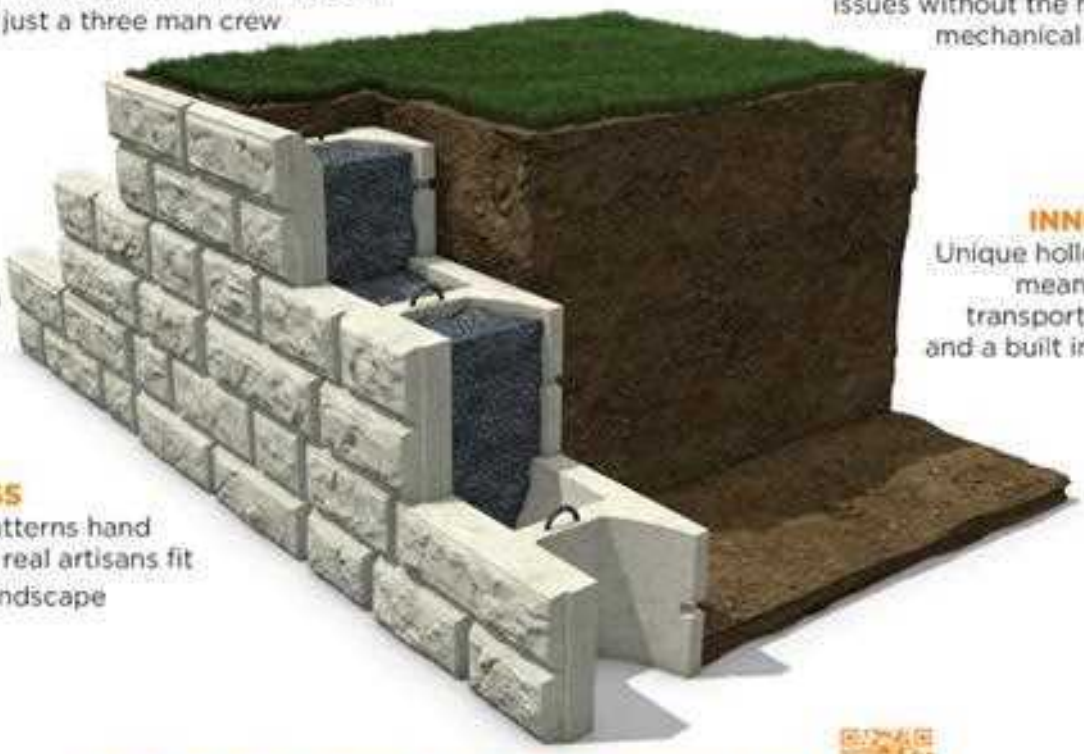

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INDUSTRY *Influencers*

MEL MARSHALL

Industry Influencers is a new series for *Precast Inc.* magazine in which we talk with people who are looked to for guidance and advice by NPCA members across generations.

For the first Industry Influencers article, NPCA caught up with Mel Marshall of Mel C. Marshall Industrial Consultants Inc. Mel received the Robert E. Yoakum Award in 2007 and was one of the original designers of the Production and Quality School courses currently taught during The Precast Show.

NPCA file photos and photos courtesy Mel C. Marshall Industrial Consultants Inc.

Mel Marshall

Q: How did you first get involved in the precast concrete industry?

A: After I graduated from college in 1960, I moved east to Hamilton, Ontario, and worked in a steel mill for a year. From then on, from 1961 on, I have been involved with reinforced concrete. At the beginning, it was pour-in-place, but I got involved with precast and pipe soon after. I did my first design for concrete pipe in 1963, and then I ran a concrete pipe operation. Eventually, I came back west to build a wire mill for other people. Then I started on my own in 1980.

Q: How have you seen the precast industry evolve throughout the years?

A: Products change. Processes change. People change. What has really changed is the emphasis on education and trying to make people throughout the industry more knowledgeable. The Wiesers are a great example. Joe and Mary started the company in their backyard, but then like all the other people in their generation, they sent their kids to college either to be engineers or for management and sales training. We've got a really good professional group now spread out throughout the companies. But at their cores, they're still down-to-earth, ordinary people.

This second and third generation have moved in to expand the product lines, and they're doing things that are more technical. I look at the articles NPCA publishes about the projects that these companies and these people have initiated. It's amazing. It wasn't like that when we started. Years ago, people would get a call and make a septic tank or a manhole riser. Now, they're out generating new markets and opportunities.

Q: Why do you devote so much of your time to NPCA education?

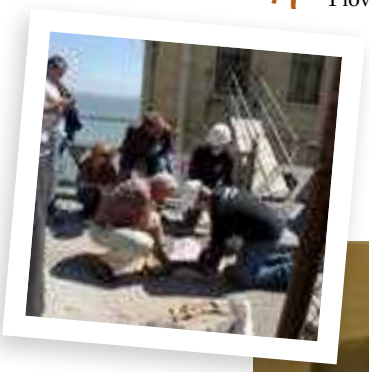
A: It's a very special industry. NPCA members are fabulous people. I belong to a lot of different associations and have worked with a lot of diverse groups, and the precast concrete community is the best. The NPCA membership is, pretty much, still family-owned companies. That's what makes NPCA different. They

bring their families to the annual meetings and you get to meet what's important to everyone. Then you get to see those kids grow up and become part of what we are doing.

Q: How did the Production and Quality School go from idea to what it is today?

A: We started the education program about 30 years ago. All NPCA had at that time was something called Fundamentals of Concrete put on by the Portland Institute, and that's all our members had to go to. That course was about ready-mix, not precast.

So, when the NPCA hired its first engineer – a guy named Bob Austin – about 30 years ago and when they started to talk about having a certification program, Mark Thompson brought to the board the idea that they should start some sort of an education program on their own. Bob Austin called me, and we put together what we now call PQS I.



We used to teach that once a year at a place on the outskirts of Chicago. It was popular but not everyone could join us, so we wanted to expand our reach. We took it five, six locations at first, then a few more as the years went on so we could offer it from coast to coast. In 2008, when the economy went bad, we downsized it where we just offered it at The Precast Show, which is where it primarily is taught – in person at least – to this day. But in narrowing, we expanded it to include PQS II and PQS III and everything that goes into those.

Q: Why do you remain involved with PQS I?

A: I still like being associated with PQS I, because it is so much fun. It's designed for new people coming into the industry. Sometimes, it is new owners who just bought a company. Sometimes, it is workers. But no matter who it is, they all start out on the same footing in the class, and they want to learn about precast concrete.

Q: How has NPCA's educational approach changed through the years?

A: The biggest change with NPCA education is the wider variety of classes that are taught. It's practical education. The advancement of technology has gone a long way in developing our industry, but a big thing to not overlook is the initiative that NPCA members take to educate themselves and their workforce. This opens the doors to going back home to develop new products and new services while expanding their markets.

Q: How do you enjoy being a classroom teacher?

A: I love it. I love the connection it gives me with people. I regularly receive calls from the people who have taken my classes, literally hundreds of them over the years. I tell everyone in my classes, if you have a problem, I'm there to help you troubleshoot. We may not get to everything during the time we're together, so I make myself available whenever they need me.

I really enjoy doing that, and I don't charge for it. I'll work with them until we've got a solution. But that's a pretty basic thing, and it doesn't sound exciting – except for me. I really get a charge out of helping people solve their problems.

Q: Do you see your classroom teaching as an extension of the role you've taken as a mentor?

A: I try to mentor the younger generations in any way that I can. They all know that I am here for them ... at least, I think they do. It's not just younger people who need help, though. A lot of middle age and older people will reach out and say, "I've been in this business 25 years, and I've never seen this. What do you think?" We are never too old to learn something new, and that is always fun and encouraging and exciting to me.

I don't pretend to know everything. I just love the challenge of working together with people. Usually, they end up solving their own questions. I just give them ideas to work with them.

Q: You've gone from small companies to big companies back to a small, family company. Why?

A: I decided long ago in my career that I didn't want to be a president of a larger corporation anymore. I wanted to get small again. So I started a new company in 2007 and just started consulting. And the more time I spend on the consulting side, I realize it is what I truly love doing. I still get involved when we go into a precast concrete plant, but the day-to-day stuff like septic tanks and manholes, my son, his wife and my grandson take care of that, and that gives me the opportunity to do what I really love, which is working with people and helping them tackle their issues.

Q: Where do you see the future of precast concrete?

A: As this next generation grows up and starts taking leadership positions, they have a lot of ideas. Every year it seems, there are pour-in-place products that are getting replaced by precast products, and that's something that can continue.

Precast concrete is here to stay – with the speed and the cost and the durability. Other products can't beat that. As the industry develops new mixes with the lower carbon cement, that's another avenue for opportunity. I've spent a lot of time with companies who are doing a good job of reducing carbon emissions. It's fun to watch people take new ideas and insert them into tried-and-true practices to make a new process that really vaults the industry forward.

Q: What was it like winning the Yoakum Award?

A: You go to the convention not knowing who is going to get it, and I almost missed it. I was sitting at the table, and a guy was talking to me, and I was trying to hear what they were saying on stage. Then, all of a sudden, somebody was standing up at the podium, talking in front of a picture of me teaching. I thought they were talking about the education classes and hadn't started the Yoakum presentation yet.

That was my introduction.

Nowadays, they play a video and they ask you to come up after. And that time, you were supposed to stand there while someone talked about you. By the time I figured it out and got on stage, it was about over. I had no idea what going on. Still, it was a thrill.

Q: Have you thought about your own future?

A: As far as retiring, I always say, "If I love it, don't leave it," and that I'll be retired when you see my ashes floating in the ocean. That's when it truly will be over for me. I like this stuff. I'm still passionate about it. I've got no problem finding projects and people to meet with, and if it doesn't feel like work, why walk away?

In the end, I'm just happy doing what I do. I'm kind of embarrassed talking about it because in a selfish way, I do it because I really, really, really like to. And fortunately, it helps a lot of other people along the way.

Sometimes, I'll be walking down the hall at The Precast Show or the convention, and someone will come up and tell me, "I was in your class 10 years ago." I had a person come up to me a few years back and tell me he was in the very first class I taught, and he still remembers me. That's really satisfying. **PI**

Joe Frollo is the NPCA director of communications and public affairs.

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After rigorous education courses, **Master Precasters** bring new understanding, technical knowledge, practical application and other new skills back to plants.

By Heather Bremer

In 2016, Alan Pritchard became self-aware.

Like a machine gaining artificial intelligence and evolving to become more than just its defined processes, Pritchard began to see his role at Smith-Midland Corp. in Midland, Va., in a new light.

He soon realized how much he didn't know that he didn't know.

Pritchard credits NPCA's Master Precaster program in leading to this revelation.

Pritchard is one of the 250 men and women to graduate from the program since its founding in 2012. As the first of 11 Smith-Midland employees to seek certification as a Master Precaster, he saw immediate benefits in the precast-specific training and the opportunity to discuss common issues with others in the industry.

But it was the leadership course that opened his eyes to how his approach affected other people and how interacting with different people required different approaches. Pritchard was able to act on those innovative ideas as soon as he returned to the plant.

NPCA file photo

More than 250 individuals have graduated from the NPCA Master Precaster program since its inception in 2012, bringing industrywide improvements to NPCA membership.

"I'm still practicing and trying to get better," Pritchard said. "It's just one of those things that I wasn't aware that I needed to get better until I went through some of the classes."

As the plant manager at Smith-Midland, Pritchard now mentors others seeking to pursue the golden hardhat presented to Master Precaster graduates. When they return to the Midland plant, Master Precasters coach workers on tasks such as special finishes or repairs if a product happens to get damaged. They also do cost analysis and problem-solving, utilizing skills they learned throughout the program.

"They've been sort of the go-to resource," Pritchard said. "Other people have been able to reach out to them if they need anything, specifically technical recommendations."

This level of knowledge is invaluable to an operation.

At Western Precast Concrete Inc. in El Paso, Texas, there are six Master Precasters on staff, each with a heightened awareness of the technical basis for manufacturing quality precast concrete.

"After graduating, we are able to see that each of these individuals with additional training and education understands every aspect of producing quality precast concrete products," said Leo Feuerstein, Western's secretary treasurer, CFO and operations manager. "These individuals have been designated as staff members who now understand mix design, reinforcement guidelines, form use care and placement, stripping, inventory placement, pre-pour and post-pour procedures, lifting procedures and myriad of other technical details."

In addition to the technical and production knowledge gained through the Master Precaster program, graduates also learn to understand plant safety, how to handle personnel issues and how to

Alan Pritchard

"I'm **still practicing** and trying to get better. It's just one of those things that I wasn't aware that **I needed to get better** until I went through some of the classes."

Alan Pritchard, *Smith-Midland Corp.*

deal with human resources issues.

Feuerstein said staff members who obtain the designation bring a greater level of care and quality to their departments. He cited an example of a quality control director who grew in his ability to understand mix design and fine-tuned Western's batching operation.

"Perfecting our use of raw materials to produce a much more cost-effective batch while still meeting the strength requirements for each particular job is invaluable for both us and our customers," Feuerstein said.

Western's internal training includes knowing the proper use of stinger vibration, but a production manager who learned the "why" of the process through the Master Precaster courses not only helped that individual but led to a process change that resulted in an improved finish and a better final product.

"The simple process of not dragging the stinger but properly inserting and removing it was a direct result of Master Precaster training," Feuerstein said.

Feuerstein believes every NPCA Producer member should get as many staff members educated through the Master Precaster program as possible. In the highly demanding and technically specific environment of precast concrete, an educated staff that understands what's required of them only helps business.

Employees who are encouraged to enter the program find a personal level of knowledge benefits them. Pritchard said employees also appreciate knowing the company sees potential in them and is willing to put time and money into improving their skills and knowledge while making them better at their jobs.

"You sort of become more engaged just because you've been supported by the company, and we can give back at that point," Pritchard said.

Feuerstein said the program cost is affordable for producers, especially when compared to the typical cost of investing in an employee's career.

"We should remember that the actual staff member has to put forth the investment of time and work to pass each class," Feuerstein said. "I have that when the process is over, the production staff walks a little prouder with the satisfaction of being recognized for their efforts." **PI**

Heather Bremer is the NPCA communications manager.

Leo Feurstein

"After graduating, we are able to see that each of these individuals with additional training and education **understands every aspect** of producing quality precast concrete products."

Leo Feurstein, *Western Precast Concrete Inc.*

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NPCA file photo

Small businesses see the value in The Precast Show because of active engagement with NPCA membership. Many of these vendors make The Precast Show their only travel destination for the year.

BACK AND BIG AS EVER

Small companies find large value in exhibiting at The Precast Show.

By Joe Frollo

Whether a first-time exhibitor or a long-standing veteran of The Precast Show, there is a place among the 75,000 square feet for everyone.

Walking the rows at the Kansas City Convention Center, more than 300 booths will display their products and services to the largest crowd of precast concrete producers gathered under one roof.

For both big companies and small businesses, The Precast Show is about connecting with customers, meeting potential future buyers and converting those conversations to sales.

Gene Vineyard of Concrete Careers in Atlanta said nothing beats face-to-face communication, and The Precast Show fits what he is looking for. With just four employees, Concrete Careers doesn't have a large marketing or advertising budget, so Vineyard spends one week each year at The Precast Show connecting – and reconnecting – with customers.

"It's very good exposure to clients, precast companies and NPCA members in general," Vineyard said. "I don't travel much, and I don't go visit my client list like larger companies do, but by being on site, I get to

know people better, and that starts conversations with people that they know as well."

Concrete Careers helps facilities find new employees – from floor workers to general managers. Vineyard has been attending The Precast Show for 20 years, and in that time, he has developed strong relationships with many of NPCA's members.

It is to the point where he recognizes not just members of the precast concrete industry but their spouses and children as well.

"The Precast Show really is a like an extended family reunion for me," Vineyard said. "These are people we get to see every year and otherwise wouldn't see.

"At the Saturday lunch in New Orleans (during The Precast Show 2021), I sat with a man I knew for a long time. He brought his wife and son over to meet me, and I got to know them better as well. You want to really know about someone, meet the people he's closest with. Learning people's histories and backstories is a benefit you get from working alongside NPCA and its members."

While Vineyard has been attending The Precast Show for two decades, New Orleans marked the first time Ed Calafut of Truebite Inc. joined the event.

Based in Vestal, N.Y., Truebite manufactures more than 25 original products, including the Roll-n-Vac, which was a hit with precast producers.

Truebite's Roll-n-Vac

Photo courtesy of Truebite

"We like to go to trade shows because people want to see and touch the products," Calafut said. "We do a real easy display where we fill up 20 gallons of water in a garbage can, and 10 seconds later, they see half the water gone. Right away, they want to buy."

Calafut has found members of the precast industry to be different than other groups he works with. Precast producers are much more open with each other about things they see and do that work well for them. NPCA members share information, and that word of mouth is a boon to the vendors on site.

NPCA's decision to host The Precast Show in-person in May 2021 was important, Cafafut said. It not only showed other industries that it was time to return to normal on the show circuit, the face-to-face opportunities greatly helped sales.

"I did four virtual shows in 2021, and you can't interact with anyone or get a crowd talking about your product," Calafut said. "At The Precast Show, we sold enough units to pay for the trip and got leads for the future. People who bought one item are calling about purchasing a second now. People see something new and different, they tell others, and you can't beat that." **PI**

Joe Frollo is the NPCA director of communications and public affairs.

NPCA
National Precast Concrete Association

Working For You
IN 2022

Maximize Investment in NPCA
Through Outreach and Looking to the Future

NPCA file photo

NPCA works alongside member companies to provide outreach programs such as plant tours in order to engage local specifiers, engineers, students and even prospective workers.

GETTING INVOLVED

NPCA's ongoing efforts in Outreach continue to connect the precast concrete industry to specifiers, contractors, students and faculty through webinars, in-person and virtual presentations, plant tours and more. Many NPCA members use these opportunities to partner with NPCA in their local markets to maximize their companies' outreach efforts.

One such example is Wieser Concrete Products. The company works within its communities to engage specifiers, contractors and schools to provide opportunities to learn more about what precast concrete can offer.

"Plant tours and community outreach events allow Wieser Concrete to develop relationships face to face. We appreciate the opportunity to meet people in person and explain why we do what we do and answer

any questions they may have," said Rachel Voelker, marketing manager at Wieser Concrete Products. Three of Wieser Concrete's plants participated in NPCA's most recent Precast Days event, which allowed them to connect with hundreds of local specifiers and contractors who saw firsthand the many benefits of precast concrete, as well as several schools whose students learned about precast and career opportunities within the industry.

Another way to maximize your plant's involvement with NPCA on the local level is attending university, high school and vocational/technical presentations NPCA staff make in your area.

Each year, NPCA staff gives precast-focused presentations to hundreds of students across the country. These presentations are enhanced when local NPCA Producer and Associate members attend the presentation to share their experiences and talk about local projects. This also is a fantastic networking opportunity to find interns, summer employees and permanent employees as these students are already interested in the industry.

PRETECH Corp. President Bill Bundschuh is a believer. When the NPCA Foundation and NPCA funded a grant to develop precast-specific curriculum for Kansas State University, the Kansas State alum jumped at the opportunity to get involved.

Bundschuh opened his plant to the KSU faculty and students and has offered to help make presentations to the students as the new curriculum gets up and running.

"What PRETECH and the entire local market will gain by us getting involved with the schools and getting precast into the engineering programs at KSU is graduate engineers that will have been exposed to precast," Bundschuh said. "Getting the students into the plants will not only give them an idea of what precast is all about when they get out in the real world and start designing, but it may also get them to decide that they would like to get into the precast industry. The greater the knowledge that young engineers have in precast, the better our chances of growing our industry. We are hoping to attract some good young engineers into our employment."

LOOKING FORWARD

The NPCA Foundation currently has grants to develop and deliver precast-specific curriculum at five universities across the United States. This is part of a strategic plan to add at least one new school each year. This makes it the perfect time to get involved with local schools to make the most of your company's outreach efforts in partnership with NPCA's efforts.

Schools with NPCA Foundation grants are excited about working with local NPCA members. Additionally, NPCA has relationships with dozens of schools across the country and each of these schools is looking for industry partners who can provide guest lectures, plant tours, product demos, donate materials and more.

"Plant tours and community outreach events allow Wieser Concrete to **develop relationships** face to face."

Rachel Voelker, *Wieser Concrete marketing manager*

At a time when the labor market is tight and the industry is growing by leaps and bounds, today is the time to harness the power of outreach to build the relationships that will pay off in the present and in the future.

GETTING STARTED

Not sure where to start? Reaching out to NPCA staff is all it takes. NPCA can introduce you to schools in your area that want to connect with industry.

Not an engineer or don't think of yourself as an expert? That's OK. All it takes is a passion for precast and a willingness to share your company's role in the industry and your career path in precast.

Learn more about how NPCA supports faculty and students by visiting our resource page
https://precast.org/welcome-students-professors/

NPCA file photo

Community outreach can appear daunting if you have never done it before. Let NPCA help you find the right message and delivery points to help you communicate with local specifiers, government officials and potential employees.

Photo courtesy of McNeese State

The NPCA Foundation recently awarded nearly $50,000 in funding to McNeese State, and the Louisiana university is using the funds to offer a precast concrete learning lab for its students.

NPCA Foundation Grant

SETS A PRECAST CONCRETE FOUNDATION AT McNEESE STATE

By Joe Frollo

Students at McNeese State University in Lake Charles, La., are getting hands-on experience with precast concrete in part thanks to NPCA and the NPCA Foundation.

In November, the NPCA Foundation and NPCA awarded nearly $50,000 in grant money to McNeese State to support a precast concrete-specific learning lab within the engineering department. NPCA matched that grant in December.

The learning lab allows students to develop first-hand experience with engineering and construction projects where precast concrete is the primary building material. Also as part of the program, McNeese State students will have the opportunity to interact with local NPCA members, who will serve as mentors and instructors.

"The creation of a precast studio at McNeese University will have a substantial impact on the university as well as the geographic area

Photo courtesy of McNeese State

of the country," McNeese State Associate Professor of Engineering Dr. Ahmed Abdel-Mohti said.

According to Abdel-Mohti, 50% of McNeese State engineering graduates enter the petrochemical field, and of those, between 30% and 40% remain in the Gulf South region.

"To arm the students with the precast knowledge they need during their educational tenure ensures that the petrochemical industry will benefit from them being able to hit the ground running when they enter the precast manufacturing environment."

The development of the learning lab at McNeese State marks the fifth university to receive an NPCA Foundation and NPCA grant to support such a project. NPCA Foundation also works alongside the New Jersey Institute of Technology, Cal State University-Chico, Kansas State University and Idaho State University to advance opportunities for students who one day may join the precast concrete industry.

As part of the curriculum, the McNeese State lab will house a multi-year project in which students are immersed into real-world projects that include instructional time on precast concrete and how it compares with alternative building materials. Instruction also will focus on design criteria of precast culverts, which are essential in drainage systems throughout southwest Louisiana because of potential extreme flash flooding conditions.

Before this lab, McNeese State did not include precast concrete as an integrated subject for engineering and construction students. The lab program will enable McNeese State engineering to saturate the student experience with precast plant tours, industry speakers, real-life design experiences, industry events and more, which will create a comfort and familiarity with precast for the students as they take their places as future professional members in the building industry.

Led by Abdel-Mohti and Professor Ted Thompson, the program will provide both guidance toward and assessment of a foundational knowledge for precast concrete. Abdel-Mohti and Thompson combine for more than 45 years of education and experience in the construction industry. A third faculty member, Dr. Dimitrios Dermisis, brings more than 15 years of experience in topics related to hydraulic performance of structures and stormwater analysis.

The NPCA Foundation and NPCA awarded the McNeese State University grant in conjunction with a PCI Foundation grant. **PI**

Joe Frollo is the NPCA director of communications and public affairs.

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 jfrollo@precast.org.

AFINITAS NAMES SCHALL PRESIDENT OF THE CONCRETE ACCESSORIES DIVISION


Kirk Schall

Afinitas has added Kirk Schall to its executive leadership team as the new president of the Afinitas Concrete Accessories Division. Schall succeeds Aaron Schmidgall, who will remain with Afinitas in a strategic advisory role.

Prior to joining Afinitas, Schall held a wide range of roles at DuPont, including operations, strategy, sales and business leadership. Most recently, he led MECS, a subsidiary within DuPont Clean Technologies that specializes in sulfuric acid technology.

AFINITAS PROMOTES ENGINEERS KARNES, BALLWEG


Matt Karnes

Afinitas recently promoted Matt Karnes and Jake Ballweg within its engineering section.

Karnes is now principal engineer of product development within the Afinitas corporate engineering team. Karnes previously served as director of engineering for the Afinitas Forming Systems Division. He also was general manager and engineering manager of the Afinitas Columbus, Ohio, facility.


Jake Ballweg

Ballweg was promoted to fill the director of engineering role vacated by Karnes. In his new role, Ballweg will oversee engineering design, systems, processes and scheduling between sites.

MAX USA ADDS COAN, PERSIANO


Stephen Coan

MAX USA Corp. recently added two new members to its sales team.

With a strong background in selling national consumer products through both retail and wholesale distribution, National Account Executive Stephen Coan is focused on driving sales and distribution of MAX products through new channels including plumbing, electrical and rental as well as industrial supply.


Adam Persiano

West Northeast Regional Sales Associate Adam Persiano's vast background in the construction industry has allowed him to grow his skillset as an established sales associate. Persiano first started off as a project manager, which led him to commercial sales. With over a decade of experience in the construction industry, Persiano emphasizes open communication with his customers to increase sales. His ability to build loyalty and trust fuels his success.

SWIGER RETIRES FROM A-LOK


Wally Swiger

Wally Swiger retired as sales manager at A-LOK Products Inc. in November. Swiger, who worked at A-LOK for more than 20 years, was replaced by Bud Dallas.


Bud Dallas

Dallas becomes sales and marketing manager after leading the Northeastern sales territory during the past 16 years, a role now filled by Michael Newborg.


Michael Newborg

Newborg began at A-LOK in 2012 as a web and graphic designer, eventually leading the marketing and communications department.

CRANES101 CELEBRATES 20 YEARS IN BUSINESS

Cranes101 celebrated its 20th anniversary in late 2021 as an industry leader in safety training and third-party equipment inspections.

The Bellingham, Mass.-based company offers safety training for cranes and other heavy equipment, including classes applicable to industries, including construction, arboriculture, sign installers, precast concrete and warehousing/logistics.

HAWKINS IS NEW ACPA PRESIDENT

Steven Hawkins

Steven Hawkins started in January as the American Concrete Pipe Association president.

Hawkins has spent more than 20 years in the concrete reinforcement industry, most recently as director of marketing at the interlocking Concrete Pavement Institute. Before that, he was vice president and marketing director at the Concrete Reinforcing Steel Institute.

WINGERT RECEIVES ASTM C27 DISTINGUISHED LEADERSHIP AWARD

Howard Wingert

Concrete Sealants President Howard Wingert is the 2021 ASTM C27 Distinguished Leadership Award recipient.

Throughout his over three decades of service with ASTM, Wingert has worked to develop new standards, contribute to updates of existing standards and spearhead new endeavors throughout C27 and other ASTM committees. Wingert served as the chairman of Subcommittee C27.30 on Water and Wastewater Containers from 2008-16. He also was C27 secretary from 2006-12, C27 chairman from 2013-15 and past chairman from 2016 onward.

AFINITAS ACQUIRES AMIFAST

Afinitas in December completed the acquisition of Amifast, a provider of high-quality fasteners, lifting inserts and related accessories to the precast concrete and construction industries. Amifast was acquired from RoX Capital, who partnered with the business in 2017.

Headquartered in Liberty Hill, Texas, Amifast was founded in 1986 as a supplier of building products throughout North America.

TAGGART JOINS PATHFINDER SYSTEMS

Steve Taggart

Pathfinder Systems has named Steve Taggart a field service technician. Taggart started his career in precast and ready-mix cement as a general laborer on a finishing crew. He worked his way up to a driver before eventually running a plant.

In 2021, Taggart was named Plant Operator of the Year. That same year, the facility that he ran won an Environmental Excellence Award. **PI**

CALENDAR OF EVENTS

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.

Feb. 23-25, 2023

THE PRECAST SHOW 2023

Greater Columbus Convention Center
Columbus, Ohio

For the most up-to-date information about NPCA events, visit **precast.org/meetings**

ADVERTISERS INDEX

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Increase ROI

With data-driven production planning, the ability to use your existing wetcast forms, and new business from added capabilities, the advantages are clear. Also, when you add Prima forms, their advanced features can reduce cycle times, helping you deliver product faster.

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afinitas.com/prima.

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