

PLIBRICO

The Mixer

3rd Quarter | 2018

AUDIENCE INSIGHT DRIVES PLIBRICO CHARITABLE DONATIONS

Plibrico has combined good deeds with good business by rewarding respondents to its latest "Voice of The Customer" (VOC) survey with a charitable donation and decision. In return for survey completion, respondents were given a choice of three worthy causes - St. Jude Children's Research Hospital, Wounded Warrior Project, and Feeding America. As a result, the company donated funds totaling several thousand dollars to advance the charities initiatives.

Plibrico's VOC survey, which was distributed to hundreds of the company's global distribution partners and customers, gathered valuable information about the respondent's interactions with Plibrico products/services, and provided a more thorough understanding of the challenges they face daily. Further, the survey also collected market information that will be used to make important decisions, improve the distributor/customer experience, and help the company exceed audience expectations.

CHARITABLE GIVING

A big thank you to our PliPartner and customer contributors that jumped on board and helped enable the donation! Plibrico is proud to support these worthwhile charities. We are humbled by the opportunity to raise awareness and help enlist aid.

42 Children diagnosed with cancer daily
St. Jude's Children's Research Hospital

2.2m Injured American soldiers
Wounded Warrior Project

41m Americans struggling with hunger
Feeding America

INSIDE ISSUE

- > President's corner
- > Department updates
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President's Corner



To say the least, 2018 has been a very interesting year. Whether it's the section 232 tariffs on steel and

aluminum, or the continued instability of raw material pricing and availability, it's keeping us on our toes.

Tariffs have made a strong impact on the refractory market. The steel and aluminum industries are riding a wave of robust production and consumption. As these industries benefit from the tariffs – so in return, do we and our partners. Terrific for Plibrico and many of our PliPartners as aluminum is one of our dominant markets. I believe tariffs were a main contributor to a strong first quarter performance.

On the flip side, we are starting to hear rumblings of project delays because customers don't want to shut down and lose the revenue. This is a slippery slope for customers. History has demonstrated that a lack of preventive maintenance will typically result in more costly failures/repairs.

We believe that this is the reason for softening material sales over the past couple months.

Raw materials has our full attention. Driven by mining restrictions in China, the industry has experienced restricted supply of raw materials which translates



“ Plibrico is doing the right things, investing in customers, partners and employees.”

into higher pricing. While we initially were optimistic about the restrictions being lifted, and supply/demand settling down, that doesn't appear to be happening soon.

Questions that seem to keep coming up in my conversations with industry professionals:

- Do I think we will see some easing of price pressures in the future? – **Yes**
- Do I think the industry will return to 2017 price points? – **No**
- What do I think future pricing will look like? – **Unsure, but I am pretty confident that near term volatility will continue before we see supply stabilization.**

Forecasting the balance of the year, I remain optimistic. We are expecting to see a market correction. The project slow down we have experienced over the past couple of months will reverse

and correct itself.

The economy, in general, continues to be very strong. While our business typically experiences a late Q3 and Q4 “boost”, we are preparing for the lift to be more exaggerated this year. We believe we will see more unplanned emergency shutdowns. Plibrico continues to stay focused on key initiatives:

- Investing in our customers
- Improving employee training and processes
- Engaging and supporting our operations and partners

So hang on, I believe the second half of 2018 will be just as dynamic as the first. Enjoy the rest of the summer and as always, BE SAFE.

— Brad Taylor, President & CEO
Plibrico Company, LLC

Highlights from Q3-2018

NEW HIRES

- Aaron Ingalls, Northbrook, IL, NE Territory Manager
- Travis Spithaler, Salem, OH, Welder/Fabricator
- Todd McTigue, Salem, OH, Redi Shape Manager
- Eddiezer Vargas Hernandez, Bartow, FL, Warehouseman/Truck Driver
- Rithin Joseph, Northbrook, IL, Marketing Intern-Summer

SAFETY AWARDS

We awarded Plibrico Safety jackets to employees in Bartow, Florida; Allentown, Georgia; and Salem and Oak Hill, Ohio, for their superior safety performance. All four locations completed a full year of operations without an OSHA lost time "recordable" accident.



Plibrico Florida Project Manager
Darryl O'Berry congratulating Frank
Carson, Field Superintendent

Plibrico's plastic refractories are a great choice for quick repairs because they provide a balance of good properties along with reductions in dry-out times

Product Focus: Plastic Refractories



For lining repairs, consider “tried and true” materials to meet the demand of quick turn-arounds

Inquiries regarding rapid dry-out materials for a customer's application are becoming more common. Often times, the end-user wants to use a rapid-fire material to reduce the down-time of their furnace equipment. The faster a furnace can be brought back online, the faster production can resume ...important as time is money. However, customers looking for a good balance of refractory properties should consider plastic refractories. They are proven performers and may provide a better cost solution.

Fast dry-out refractory materials are advanced castables, usually reduced-cement types, bonded by both high purity calcium aluminate cements and silica fume which may have the potential to yield nearly the same properties as their non-fast dry-out counterparts.

While they are promoted as an easy solution which provides time savings, they come with limitations to their material properties as well as cautions on dry-out:

- Lower strength properties due to reduced cure times
- Limitations for accelerated dry-outs for linings greater than 9" or 12"
 - o It is common to require a longer dry-out, requiring a custom schedule from the refractory vendor
 - o In some cases, these heat-up ramps are significantly extended
- Vapor permeable enclosures are a must -weep holes, multiple venting sources

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Plibrico Department Update

ENGINEERING

One thing I have noticed in the past 2 years is that project types seem to “clump” at times. Recently, I've seen a number of car bottom furnaces come across my desk. These make good engineering projects since they require a lot of material and are fairly straightforward from a construction standpoint. I hope to see more. The team has also been helping marketing with their task of updating our application guides. The updated guides will include new materials we have introduced over the past few years. Good reference material, and a great resource when for choosing refractory materials for the various zones in your customer's thermal processing equipment.

MANUFACTURING

As is typical with the summer months, the Oak Hill plant had a softer quarter with new order volume, shipments and production. Continuous improvement initiatives:

- o The Rockford Systems group returned for a follow-up audit on some safety improvement recommendations completed by the Plant maintenance department.
- o All employees completed Accident Prevention, Respiratory Protection, and Lock Out / Tag Out training

SAFETY

We remain focused on jobsite safety to control our risk, hazards and accidents. Our Crews Safety Meetings continue – information on Cranes and Slings was released in July. Our Tool Box Safety Talks also continue and have good interactions with our employees.

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Product Focus

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- Vigorous air circulation is required
- Several suppliers still put holds in the bake out

The benefit is that the dry-outs can be cut in about half the normal time. This can save up to 40-50 hours. However, the reduced properties can affect the overall performance of the refractory.

The important decision that the end-user needs to make is the trade-off between *long-term strength of the material versus the short-term benefit of getting back on-line.*

There Might Be A Better Option

Plibrico's line of plastic refractories and Exo-Set™ products, by comparison, might be the choice to make. While the project manager must determine the cost comparison between installing a reduced dry-out material versus a plastic material, often the

plastic refractory remains a solid choice. It gives a balance of good properties along with the benefit of reduced dry-out times. The result is the best of all worlds.

Plastic refractories are useful in many applications, including repairs. They install easily, and Phos-bonded plastics bond well to existing refractory. They have good thermal shock resistance and can be fired immediately at a rate of 100 degrees F/hr.

Plibrico's Exo-Set Uno gun mixes offer a good solution offering material higher placement rates, no curing time required, and a 50 degree per hour ramp up to 1000F. These rates are comparable to most reduced dry-out castables.

Other advantages over fast dry-out alternatives include:

- No cure time vs reduced cure time
- Low temperature water release at 212F - 95+% of the water is removed by 212 degrees F



- Higher permeability which allows for better pressure release during de-watering
- Higher Porosity - thermal shock resistance
- Low conductivity
- Good abrasion resistance

In the end, Plibrico plastic refractories and Exo-Set products emerge as a clear solution due to their properties, familiarity, and ease of installation. They have a proven and consistent reputation of success in a wide variety of applications and are often the better cost solution.

Getting to know you: Norm Phelps

Where do you work? "My home office is in the Atlanta area, but I'm responsible for our sales department, which is committed to delivering profitable, sustainable growth, so I work wherever I can create value for our customers."

Where do you live? "I live in Roswell, Georgia with my wife, Rachel."

What do you do in your free time? "My wife and I like to explore the world and learn about new places, so travel is a big part of our free time."

What do you like about your job? "I enjoy the challenge of realigning our sales strategy to meet the needs of our customers, and to anticipate the future requirements of our markets. The fact that I get to work on that as part of a talented team of great people is the icing on the cake."





PLIBRICO IN THE NEWS

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Plibrico Hires Aaron Ingalls as Northeast Territory Manager

◆ Manufacturing output increased 0.3% to 104.6 in July, beating previous estimates and representing 2.8% higher than its year-earlier level. Manufacturing capacity is still available - capacity utilization for manufacturing increased 0.2 percentage point in July to 75.9%, a rate that is 2.4 percentage points below its long-run average.

◆ In the most recent NAM Manufacturers' Outlook Survey, respondents cited accelerating raw material costs as the

number two business concern, after workforce recruitment and retention. Prices are expected to rise over the next 12 months at the fastest pace in 7 years.

◆ Job openings in the U.S. economy continued to exceed the number of people looking for work. This is a sign of a very tight labor market and helps to explain why difficulty in attracting talent remains such a large challenge right now. This includes small business owners, with respondents to the most recent National Federation of Independent

Business survey citing the quality of labor as the top "single most important problem" for the sixth consecutive month.

◆ In mixed reviews, the University of Michigan and Thomson Reuters reported that consumer confidence dipped in preliminary July figures, declining from 98.2 to 97.1, the lowest point since January. Even with some slippage, the press release notes "favorable job and income prospects, with consumers under age 45 anticipating the largest income gains since July 2000."

The Safety Spot: Bee Stings

We often hear those around us say they are allergic to bee stings, but when we listen they commonly are referring to the localized redness, swelling, pain and itching rather than a true full blown allergic reaction. Many people live in fear of bee stings because of "anaphylaxis". An anaphylactic event is an aggressive form of an allergic reaction and occurs when our body's immune system overreacts and releases too much antibodies to combat toxins. A massive antibody release of histamine causes the cells to rupture, setting off a chain reaction that leads to a narrowing / constricting of the airways and a restriction of the exchange of air to the lungs. Symptoms include tightness in the chest, difficulty breathing, swelling other than the bee sting site such as the face, neck and tongue that occurs over a few minutes to a few hours. Bee sting related anaphylaxis claims many lives each year. It would be worse if it wasn't for the drug called Epinephrine, a vasodilator



which reverses the effects of the body's immune system and helps restore breathing. Many affected by bee sting allergies carry epinephrine prescribed by their physician in a self-inject pen that delivers the drug at the first sign of a reaction. Timing is important – to attempt to reduce swelling and keep the breathing airway open:
>>> If needed, assist in the delivery of the epinephrine if an "epi-pen" is available
>>> If prescribed, Benadryl given per doctor instructions as a histamine blocker

>>> Help with immediate transport to the local medical center
Those of us in the Refractory Construction Industry must be vigilant during the warm season for bees, including Wasp, that like to nest around metal walkways and handrails. Finding and properly removing them first is much better than them finding you. *Bee Safe!* For additional information regarding different types of bee stings and allergic reactions Click [Here](#).

Plibrico 2018 Half-Year Review Webinar Now Available Online

A big thank you to our August 7, 2018 webinar attendees! The goal of the webinar was to provide PliPartners with a chance to hear important news about:

- Plibrico's Financial, Technology, Marketing Updates
- Price Adjustment Notice
- Succeeding Together 2018 Conference

If you could not attend the presentation, and would like to view a replay of the webinar, click below.



Employee Spotlight: Larry Simonds



Please take a moment to thank Larry Simonds for his 36 years of service at Plibrico. Larry will be retiring at the end of the year.

Larry started his career with Plibrico over 30 years ago. In the beginning he wore many hats including: Salesman, Estimator, and Project Manager. About two years after his start, Larry was promoted to Manager of the Florida office. Under Larry's management and with the help of the Florida team, the

operation grew significantly over the next 30+ years. In 2011 he opened a branch office in Allentown, Georgia to serve the Georgia and South Carolina markets. Larry is now working part-time for the Georgia office on an "as needed" basis to help during the transition period.

Larry said that what he will miss most is all the wonderful co-workers and Plipartners that he has worked with for so many years. We wish Larry all the best in his retirement.

Department updates

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CONSTRUCTION

Plibrico's Redi-Shape department continues to grow with the addition of Todd McTigue to the Redi-Shape team. Todd has a wealth of experience, he has been a precast foreman and supervisor, since 1990 with General, United and Resco. When we pair Todd's experience with Jason Holl's expertise it creates a precast department capable of manufacturing very complex high quality shapes for almost any industry. In addition, Salem has installed a new 2,000 lb orbital mixer and dust collection system. Next up on the CAPEX list, a new furnace to handle the growth volume!

RESEARCH & DEVELOPMENT

Earlier this year we requested and identified new product requests ideas. The overwhelming majority of requests were for new gun mixes. We recently completed a large gun trial, creating 26 panels that now have to be processed - cut and tested. The trial went very well, and we hope to have several new products to offer by the of the year.

SALES

It's been an exciting quarter for Sales Department – we began April with a new VP of Sales (Norm), and

then quickly added a new Territory Manager for the Northeast in Aaron Ingalls. Prioritizing our relationships with our partners, the new members of the team have been busy meeting with members of our PliPartner Network and conducting training sessions. Some key successes:

- o Securing an important trial of precast mold inserts at a new key account
- o Reestablishing relationships with some well-known contractors in the West
- o Building our first comprehensive price list in preparation for pricing adjustment on September 1

In the coming months, we will be working with new and existing partners to fill open territories that will help drive sales growth, while strengthening our relationships in our existing network.

FINANCE/HR/IT

We have completed the 2018 employee satisfaction survey. Thank you for your participation which increased significantly compared to last year. The results will be communicated company-wide within the next several weeks. The Materials Division went "live" on Navision (the Company's new ERP platform) on July 9th as scheduled.

All associated are working very diligently to work through the implementation - this involves, IT, Sales, Production, R&D, Purchasing, Payroll and Accounting.

Succeeding Together, 2018 Conference

Sponsored by Plibrico

October 11-13, 2018 at the Gaylord Opryland Resort in Nashville, TN

Our content packed agenda includes sessions that are structured to be highly relevant and actionable, with information you can begin to use in the field immediately. At the end of the conference attendees should:

1. Leverage Plibrico value added services to a greater degree
2. Better navigate challenges, opportunities and pitfalls of refractory installation and maintenance
3. Begin developing an effective LinkedIn strategy to accomplish business development goals
4. Increased skills and knowledge in corundum growth prevention, bake-out and material selection
5. Leave the conference learning two new subjects and two new ideas

[Download Conference Agenda](#)



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