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REPRINT | CONCRETE PIPES AND MANHOLES

Innovative Pipe and Curing System provide the  
Perfect Combo for Dunn Utility Pipe Plant Expansion



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# Innovative Pipe and Curing System provide the Perfect Combo for Dunn Utility Pipe Plant Expansion

The leadership at Dunn Utility Products saw a gap and an opportunity in the market back in 2014. The Mississippi-based building products company had recently launched a precast concrete operation as a Redi-Rock precast wall producer. But that was just a start. Seeing an underserved market, in 2018 Dunn's parent company, MMC Materials, invested in a concrete pipe and precast facility in Byram, Mississippi, a short distance from Jackson.

As the company quickly grew, Dunn's leadership discovered the need for basic pipe and precast infrastructure products beyond the Jackson region. In 2019, MMC Materials spun off Dunn Utility into its own division and the company created its vision to become a premier supplier of pipe and precast products in the Southeast United States.

"We didn't know what it entailed when we first started it," said Mark McCormick, president of Dunn Utility Products. "We were in the Redi-Rock business, and that was our first stab at the precast industry."

That's where a fertile partnership with Afinitas started. The Dunn Utility Products Byram facility expanded its product lines with an Afinitas HawkeyePedershaab PipePlus machine,



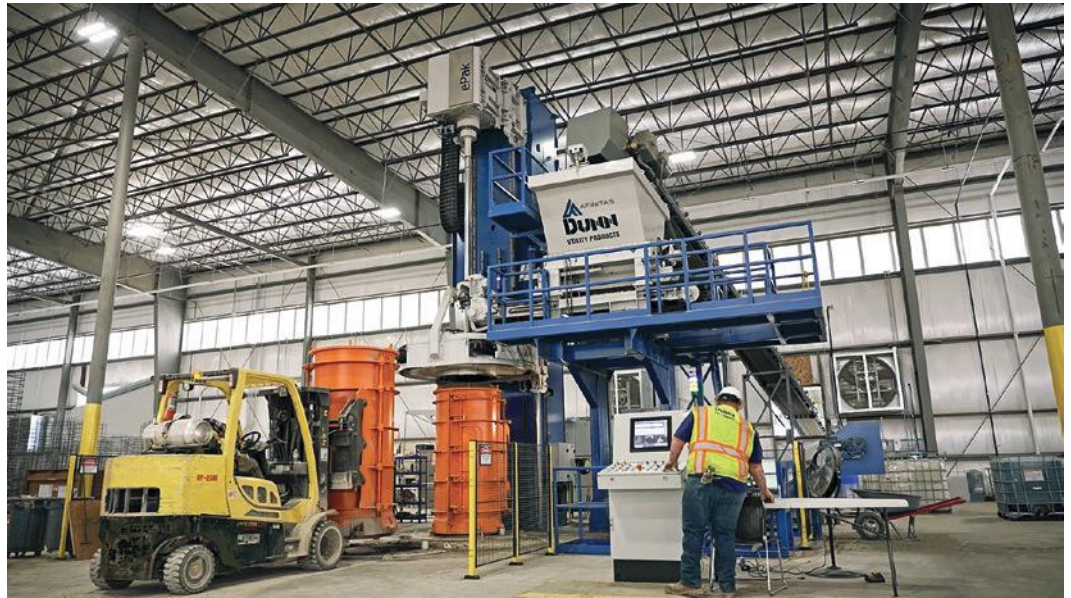
*Dunn Utility Products, a Mississippi-based building products company*

manufacturing a variety of pipe sizes, cones, manhole risers/bases, catch basins and other products. The business took off, and the leadership at Dunn Utility Products and its Birmingham, Alabama-based Dunn Investment Co., saw the potential for further expansion.



*Dunn and Afinitas established a great working relationship that helped keep the project on schedule.*

The ePak machine system at Dunn Utility in New Albany, MS.



"Volume kept growing and markets kept changing," McCormick said. "We couldn't keep up. We were shipping pipe pretty much out the back door as soon as we made it. The demand was so high that we knew we had to increase our production."

That led to a search for a second facility, which they found in a 100,000-square-foot shell building about 200 miles north in New Albany, Mississippi. Dunn Utility Products called on its Afinitas partners for advice on the optimal equipment for Phase One of its expansion: A high output pipe plant coupled with a state-of-the-art curing system.

**The ePak Emerges**

The Afinitas team presented a range of options for McCormick and his team, and a solution soon emerged. "Discussions quickly went to our ePak system because of the vol-

umes of pipe and types of pipe they wanted to produce," said Derek Von Cannon, vice president of sales.

The Afinitas HawkeyePedershaab ePak machine provided the ideal platform for the high volumes that Dunn Utility Products wanted. With its packerhead technology and eDrive system, ePak cranks out pipe quickly and efficiently.

The ePak features a powerful rollerhead drive and user-friendly production controls. The new pipe plant quickly gave Dunn Utility the capacity it needed to serve its markets. The ePak differs from the PipePlus system at Dunn's Byram plant in that it is dedicated to making round pipe in basic sizes, Von Cannon said.

"The PipePlus is an extremely versatile machine, while the ePak is a high-volume production machine," Von Cannon said. "The ePak is designed for very rapid production of



ePak's powerful rollerhead drive



*Afinitas SmartSet CurePak Curing System*

round pipe – producing one after another to ramp up your production.”

McCormick found the ePak to be the optimal system for the New Albany facility, and a perfect complement to the Pipe-Plus equipment in Byram.

“At Byram, we have the flexibility of making a variety of pipe – three different sizes at one time. We can make arch pipe and larger sizes,” McCormick said. “But we went with the ePak because we needed volume. We needed 18s, 24s and all those sizes that just fly off the shelves. We really needed to be able to meet the demand.”

### **SmartSet CurePak Curing System**

To keep up with the ePak’s output capacity, Dunn Utility needed an efficient, exacting curing system to keep production moving and ensure that its pipe would meet the Dunn



*Curing process*

team’s quality expectations. The Afinitas SmartSet CurePak Curing System provided the perfect match.

Commissioned in early 2023, the ePak and SmartSet CurePak Curing System installations “went very well,” McCormick said. “We were up and running much faster and able to hit our production marks extremely fast. We actually had to scale back just a bit after a few months of producing. We were producing too much pipe. Our storage yard area was limited,” he said. “But as far as working with Afinitas – they had some great guys out there. They educated our guys really well. They got after it.”

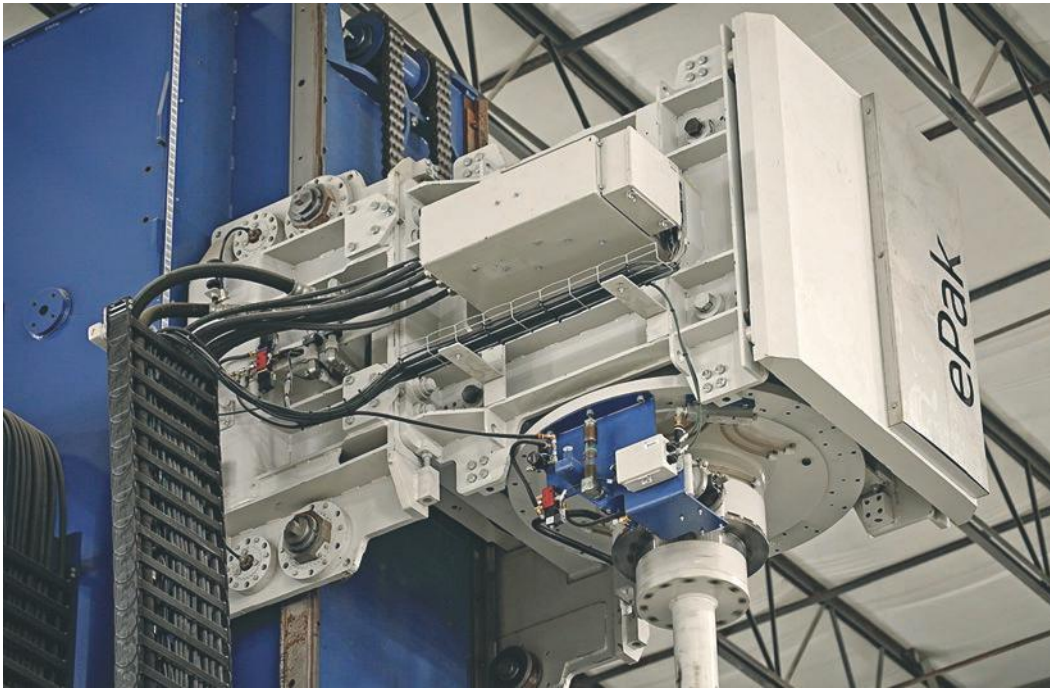
The new equipment provided the first exposure to the ePak and the SmartSet CurePak Curing System for Dan Allen, New Albany plant manager. “The Afinitas team trained the managers so we could train our employees,” he said. “We were very lean at start-up time when we were firing up the ePak machine. Along with other managers, I drove a forklift and operated the ePak, and we were also working positions in the kiln throughout the production process.

Allen worked with the SmartSet CurePak Curing System during training and found it easy and intuitive, with automated controls handling much of the functions. SmartSet features a telescopic curtain that travels as needed to encase an entire day’s run of pipe. SmartSet features direct-fired steam generators that ensure the proper hydration of the cement and result in rapid curing times and the strongest possible concrete. The Afinitas team designs the optimal setup for each facility and backs each SmartSet CurePak Curing System with a dedicated technical team, a vast parts inventory and service vans for troubleshooting and preventive maintenance.

“The kiln system is a vital part of our daily curing process,” Allen said. “The push button control panels are easy to navigate with default settings that are easily modified, as the kiln environment may change with seasonal changes throughout the year,” he said. “We found it very easy to train several employees on how to operate the functions of our kiln system,” Allen added. “As long as the settings are programmed, it takes less than five minutes to telescope the kiln curtains out, lower the front and rear doors and begin pumping steam.”



*Cured pipe*



*ePak magnetic motors*



*ePak production control system*



### Fully Electric ePak

Like the SmartSet CurePak Curing System, the ePak's control hardware ensures product quality and consistency throughout the production cycle. A fully electric packerhead machine, the ePak runs on a direct drive platform based on two permanent magnetic motors that deliver powerful packing action. The electric powerplant makes ePak energy efficient, less noisy and requires less maintenance. The direct drive makes ePak very smooth and more fluid, resulting in faster cycle times and more throughput.

The ePak's production controls operate on sophisticated software algorithms that provide operators with continuous feedback on production. Strategically positioned video cam-

eras enable the operator to monitor production cycles in real time. In addition, ePak's compact turntable allows forms to be mounted close to the center point of the turntable, which permits faster rotation speeds. All of this adds up to efficiency for Allen and the Dunn Utility Products production team.

"It's a really smooth process," Allen said. "For the last three or four months we've been fine-tuning our quality and efficiencies. Every position within the production team revolves around the ePak itself. The unique part for us is how quick and efficient the ePak produces each joint of pipe and how many joints it can produce per hour and per run each day. Everything else that we do revolves around that time frame – how many employees and how much labor you need around the ePak and other departments. It's been very impressive."



Mold Transport



Quality Control can be a boring job, if the product quality is like this.

### Looking Ahead

With pipe production firmly established in the New Albany facility, Dunn Utility Products president Mark McCormick is looking at Phase Two, which will include a wetcast side to manufacture a full line of precast, including products like boxes, culverts and manholes that go hand-in-hand with pipe in infrastructure projects. Dunn’s pipe production doubled in 2023 with the ePak coming online, McCormick said, but it’s time to keep growing. The expansion to New Albany gives Dunn Utility a stronger presence throughout the region and cuts delivery times to several major cities.

“From New Albany, we can reach Northern Mississippi, Tennessee, Alabama and Arkansas. It positioned us a lot closer to the metro area markets and cut our haul times in half,” McCormick said. The pipe plant was just one-half of the New Albany expansion, McCormick added. Plans are now underway for a Phase Two buildout for the wetcast side.

“Afinitas has been a very good partner in helping us design and lay things out and plan for the future,” McCormick said. The Afinitas team appreciates the partnership too, according to Derek Von Cannon.

“Working with Dunn has been a great experience for us - a shared focus on quality and providing customers with the best products and services in the industry makes collaborating a pleasure,” he said. ■

### FURTHER INFORMATION



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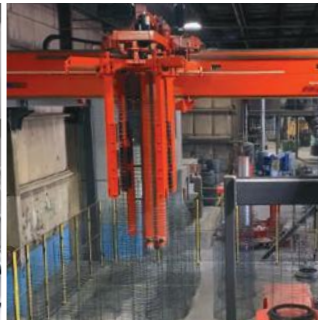
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# Afinitas is Intelligent Automation Technology



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### Intelligent Infrastructure Solutions

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