

Saving the bacon

Easily implemented barrier technology protects temperature-sensitive products during delivery

WHEN it comes to food safety, as the old saying goes, you can't be too careful.

Shippers everywhere seek effective solutions for safe handling of their cargo. Business owners and drivers alike are looking for ways to protect their customers' freight throughout the cold chain. As freight is loaded and unloaded, summer heat and winter winds can change loading dock temperatures in a hurry. Avoiding potentially dramatic temperature variations and maintaining target temperatures is critical to avoid losses and reduce claims.

Sometimes those efforts lead to innovations that are "game changers" in a fast-moving industry.

Fifty-year industry veteran Kool Pak LLC, based in Lake Oswego OR, developed the game-changing Kool Shield to focus on important processes of loading and unloading product with safe and consistent temperature conditions. Working with its experienced drivers and owner-operators, the company envisioned a trailer shield that would, literally, beat the heat and hold in the cold.

The Kool Shield forms a sealed barrier around the top and sides of the trailer box to seal in the cool air and help maintain the cold charge. Instead of 30- to 40-degree spikes of detectable ambient temperature inside the trailer during a typical delivery, Kool Shield reduces these spikes to as little as 10 to 15 degrees.

As part of the innovative design, Kool Shield can easily be handled by one person, which was an important operator consideration. The Kool Shield is flexible so it works well in single-load trailers as well as dual-temp trailers with a bulkhead to control the temperature of each section.



A side-door electric unit being installed in Florida. The unit is missing the tracks where the blue barrier runs up and down.



The Kool Shield is shown deployed at a loading dock.

FSMA-compliant

"Especially in light of additional prevention measures being implemented with the Food Safety Modernization Act (FSMA), it made sense to devise a method for protecting temperature-sensitive freight on the loading dock" said Steve Ness, Kool Pak chief executive officer.

Kool Pak is ahead of the game with FSMA requirements in various aspects of its business, and quality has always been a top priority.

"We're constantly innovating when it comes to food safety, so designing a product that is easily installed, deployed and maintained made sense both from a practical standpoint as well as financial" says G Geary, Kool Pak senior vice-president of operations.

Drivers have fewer factors to overcome if they have a Kool Shield in place. One of Kool Pak's owner-operators appreciates the reduced operating expenses. Long-time Kool Shield user Michael Borner said, "I love it. Lots of fuel savings—I don't have to run the rear reefer when doors are open. As a lease operator, I am always concerned about fuel costs and product condition. The Kool Shield totally frees me from those worries."

Another Kool Pak driver, Allen Lee, relies on the technology to protect his freight.

"The Idea of the Kool-Shield is to keep the cold where it belongs: in the trailer, not the parking lot or the dock," he said. "Whenever the doors are opened whether swing or roll-up, gravity works. The colder air rolls out of the tail, drawing in the warmer (and sometimes very moist) air, substantially warming the freight. With today's tighter food safety laws, it doesn't take long to warm up to unsafe levels and possibly causing a load to be rejected.

The Kool-Shield helps to 'Hold the Cold' while we wait on the dock crews and receivers to do their checks and secure their freight. We can also protect the remaining freight on the trailer while we wait for the lumpers/receivers to

break down their unloaded pallets, but have us married to the dock with the doors open, waiting for the bills of lading to be processed.

All in all, the Kool-Shield is the tool we need to 'Protect the Freight'," he said.

Longhaul driver Ray Johnson said, "I am so thankful our trailers are equipped with this technology because it works so well. In the summer, extended-door open time is a major problem and Kool Shield is the solution."

A good investment

Dave Hendry, owner-operator of Cannonball Express, said, "I got the Kool Shield to protect mushrooms that I haul. They are like little sponges that take on temperature and moisture very quickly. I saved 30% on reefer fuel year-over-year and would tell any other owner-operator to invest."

Kool Pak's Ness said, "We are in the process of transitioning all of our dual-temp trailers to the Kool Shield technology to ensure we protect every product."

In 2014, this technology was licensed to Humboldt Specialty Manufacturing Company in Omaha NE. With the production, design and marketing rights for Kool Shield products in the marketplace, it immediately began mass production and distribution of the Kool Shield.

The Kool Shield was initially developed specifically for rear-swing door trucks. At trade shows including TMC, Mid-America and IFDA, Humboldt staff said the product was well-received. However, there was a constant avalanche of questions about expanding the product line:

What about side doors, roll-up doors and an electric version? Humboldt saw that Kool Shield could have an even bigger opportunity to save more companies' bacon, and it initiated new product development.

The side door became the first variation to hit the market in 2015. Humboldt built both manual and electric versions for foodservice and spot-to-spot city delivery. The electric version was designed with a low-power demand and 3.5-second deployment to meet demands of drivers. Listening to customers paid off as it continued designing products.

Kool Shield for roll-up door

At first, Humboldt was perplexed by the suggestion of a Kool Shield for roll-up door. A local foodservice driver provided the answer at a chance meeting during a delivery to a nearby pub. The driver said, "I would not drag a roll-up door up and down 300 times a week because it's too heavy. The resulting wear and tear on my body isn't worth it."

With potential implications for a firm involving rotator cuff surgery or a worker compensation claim, the roll-up version quickly proved valuable and went into product development.

The final obstacle was fit. Would Kool Shield roll-up restrict work height in a trailer or box? Humboldt engineered a bracketing system to reduce work-space intrusion by 4

inches. Placement under the curvature of the roll-up door is tricky but effective. The electric version's motor was tucked behind the Kool Shield mandrel. The net effect of these designs meant a minor intrusion to the hauling cube and driver's work space.

The roll-up door electric and swing-door electric were initially seen as two separate items. Through innovation and efficiency, Humboldt merged them into a single solution that can be employed either way. Both are deployed in 4.5 seconds up or down. They use the same controller and motor as the side-door electric.

As an early engineered concept, a global company spotted this permutation at a trade show in late 2016. In 2017, the electric roll-up rear-door Kool Shield was adopted by that firm and is currently being installed in nearly 500 of their units around the United States.

Humboldt continues to add user-requested features as they surface. The firm continues to improve on the

extended product line with options like width and height variations, barrier-color choice, windows and logo placement. All of the mechanical parts for their systems are manufactured in the United States to ensure product quality and ease of service.

Since its inception in 2012, the Kool Shield has effectively reduced the number of claims, protected many tons of temperature-sensitive products and made for happier customers. Jim Keene, Humboldt CEO, said, "The feedback we receive from our customers reinforces our commitment to quality and ensuring the safety of the products they carry."

Kool Shield covers all trailer or box doors and can be retrofitted into any situation, not just new trailers. They are easy to install, requiring 45 minutes to two hours depending on the user's skills and the version purchased. Kool Shield is available directly from the manufacturer or any of its approved dealers at www.kool-shield.com/dealers/.



Owner-operator Dave Hendry appreciates the Kool Shield.



The yellow bar is just 2 1/2 inches below the rest position of the raised roll-up door. The motor operator is hung behind the mandrel.