MAGLIO COMPANIES

CASE STUDY

QUICK FACTS

COMPANY: Maglio Companies; Glendale, WI

FOUNDED: 1902

FACILITY: Manufacturing facility with a “high cube” cold storage area and nine loading docks.

PRODUCT: Tomato and other produce

GOALS: Separate multiple temperature zones within a new facility and improve safety.

SOLUTION: Rite-Hite high-speed, roll-up doors for temperature control and employee safety.

RESULTS: The quick cycle times provided safety to employees and reduced energy costs while the fabric door minimized conduction between different temperature and humidity zones.

THE SITUATION

“A tomato is 95 percent water wrapped in a red skin.”

Sam Maglio, Jr.’s whole business is focused on making sure that a tomato stays firm and a nice color of red from the moment it arrives at his facility in Glendale, Wisconsin to the moment it arrives in a customer’s hands. And that’s no simple task.

Maglio Companies was founded by Giacomo Maglio in 1902 with the intent of providing fresh produce to customers. More than 115 years ago in Chicago, that meant using a pushcart to bring the freshest fruits and vegetables from the market to people’s doorsteps. Today, it means serving customers by processing, storing and transporting a variety of fresh produce from facilities in four different states – Wisconsin, Minnesota, Massachusetts, and Texas. The expansion beyond Wisconsin has all taken place the past decade.

Sam Maglio, Jr., fourth-generation owner of Maglio Companies, started the business on a path to major growth when he purchased a building in the Milwaukee suburb of Glendale to be his new operating facility 20 years ago. Part of the purchase included the addition of a “high cube” cold storage area that also had nine loading dock bays to fortify the cold chain operation.

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THE SOLUTION

SEPARATING TEMPERATURE ZONES

While the addition was going to better serve his customer, Maglio created a challenge for his own operation – separating multiple temperature zones within his new facility. The cold loading dock is kept at about 50 degrees Fahrenheit. Within the cold loading dock addition, three separate storage coolers are kept at temperatures ranging from 35 to 40 degrees F with a humidity level of 98 percent to help maintain product integrity. At 28 feet tall and 110 feet long, the coolers have blowers hanging from the ceiling in the middle of the room to create a positive-pressure area to keep high humidity in the room and provide a superior environment for the fresh products.

The original building, which can be accessed through two different forklift doors (each at 10-feet tall and 12-feet wide) and one small service door, is typically kept at about 65 degrees F with much lower humidity to prevent produce from sweating (condensation). Food is packaged and processed in this building and any condensation can degrade product quality and lead to faster spoilage.

BI-PARTING DOOR AND STRIP CURTAINS DIDN'T CUT IT

Maglio knew he'd have to separate the buildings with some type of barrier to help contain temperature and humidity. He initially employed two fairly standard solutions for separating these temperature zones, both of which proved ineffective, albeit for different reasons.

As in many refrigerated or frozen food facilities, mechanical sliding doors were installed. While the heavy, high R-value doors were excellent at separating temperatures, they became useless if forklift operators bumped into them. If a door went down, time had to be devoted to moving product into another cooler so the broken door could be fixed. Additionally, their slow cycle time allowed a great deal of cooled air to escape each time the door opened. Maglio also experimented with plastic strip curtains. Unfortunately, the positive pressure inside the cooler would blow the strips out into the loading dock area, making it easy for air to infiltrate. Even worse, grease from the forklifts and labels from packaged products would easily transfer to the strips, which created food safety concerns.

"From a food safety perspective, it was a nightmare," Maglio said.

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THE SOLUTION

A HIGH-SPEED SOLUTION

Maglio brought up the challenges he was having with Rite-Hite representative Kevin King. Rite-Hite was already supplying a variety of loading dock products like Dok-Lok vehicle restraints and dock levelers for the new cold dock at the Glendale facility. King suggested a new type of high-speed, roll-up door for this exact application and Maglio liked the idea.

The first door was installed on one of the coolers as a trial. The set-up included a fabric door that rolled up into a header above the door. A motion sensor on the outside of the cooler automatically activated the door on the approach. The door automatically closed once the forklift was safely inside the cooler. To exit the cooler, a forklift operator would use a pull rope or push button to raise the door for a safe exit.

However, it was quickly determined the door would not be able to work in the long-term. The fabric curtain the door was made from was not flexible enough to handle the cold temperatures. Rite-Hite was able to develop a door that remedied this by using a more flexible fabric and aluminum sides.

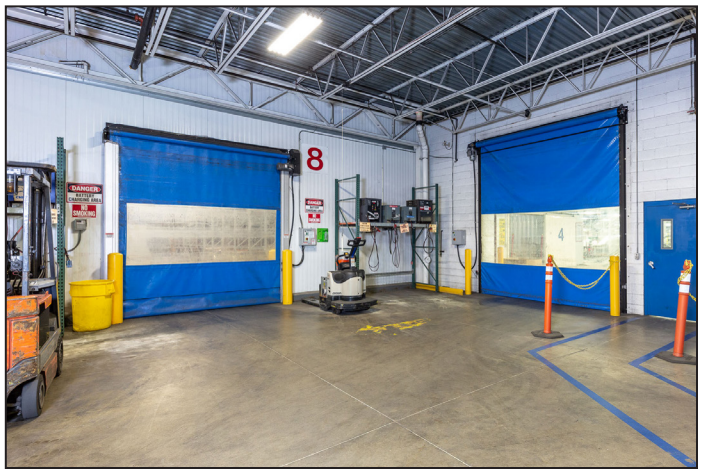
"Rite-Hite has just been a tremendous resource. They've been willing to work with us and come up with solutions."

- Sam Maglio Jr., Owner
Maglio Companies

EFFICIENCY, DURABILITY AND SAFETY

The quick cycle times reduced the opportunity for forklift operators to hit them and increased their efficiency moving through them. Those fast cycles also diminished air infiltration, which stabilized the environment and reduced energy use. The fabric of the doors proved to be highly effective in minimizing conduction between different temperature and humidity zones.

Before the Rite-Hite doors were implemented, the coolers needed compressors to run constantly to keep the environment cold enough. After installing the doors, the compressors would cycle off frequently, saving energy and costs.



"The run time on our refrigeration units went way down after we put in the Rite-Hite doors," Maglio said. "From the energy efficiency standpoint, they were an improvement. From the humidity standpoint, it was much better for our produce."

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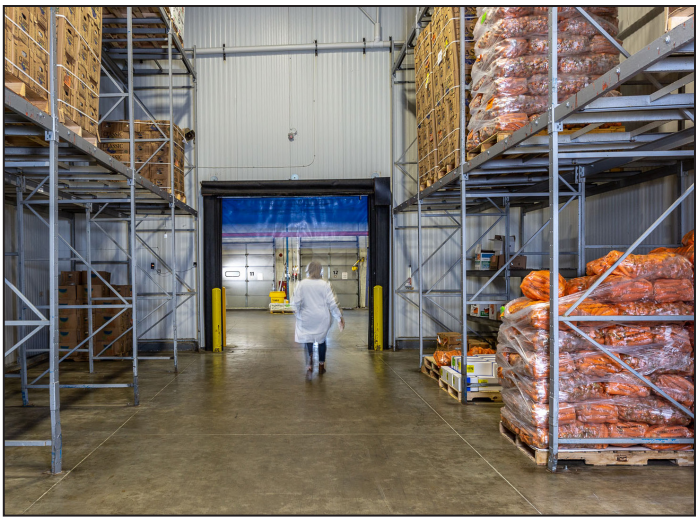
THE SOLUTION

The savings extended beyond energy conservation. With basic, regular maintenance, the doors have lasted 20 years without replacement. After more than 900,000 cycles, the fabric portion of the first door that was installed in 1998 was just replaced. Instead of putting in new strip curtains every year at $300 or more each time, the larger initial investment of the Rite-Hite door ended up saving Maglio Companies an estimated $5,400 over two decades.

“The only reason we’re replacing the door is because the fabric is getting a little worn,” Maglio said. “The mechanical and electrical systems still run great.”

ENGINEERED SAFETY

If there’s anything that Maglio Companies values more than providing fresh produce to customers, it’s the safety of their employees. That’s why everything from the design of the facility to the implementation of the Rite-Hite doors was done with insight from their safety committee.



For example, the large door openings that service the threshold from the processing area to the cold loading dock area support one-way traffic. One door is meant only for forklifts to enter the dock area, while the other door is for exiting the dock area. However, if one of the doors were to become inoperable, the openings are larger enough to support two-way traffic.

Maglio Companies even developed their own system to alert workers if there is activity inside a cooler. Using a motion sensor inside the cooler, a strobe light outside the cooler signals to other workers if a forklift is inside.

The doors themselves offer advantages in safety, as well as maintenance. Unlike hard panel doors, fabric roll-up doors made by Rite-Hite are impactable. This means that instead of being damaged and bent if run into by a forklift, they simply come off their tracks. The original doors at Maglio Companies needed to be re-aligned with magnetic connections after impact, but newer models simply load back onto their tracks automatically when they’re rolled back up. No maintenance or downtime is required. Additionally, because they are impactable, workers can simply push through the door if they get stuck inside the cooler, due to a facility wide power outage or if the pull-cord breaks.

“The Rite-Hite high-speed, roll-up doors make our workers more efficient, which helps us deliver the freshest produce to our customers. Not only that, they save energy and keep our utility costs lower.”

- Sam Maglio Jr., Owner
Maglio Companies