PRIMUS | THERMAL ENVELOPE:

Primus Thermal – Wrapping Your Business in Expertise

INTRODUCTION

Consider the importance of the thermal seal to your cold storage or food processing business. All of the elements must work together to keep your product(s) at the right temperature. Any challenge to the integrity of that seal can severely impact costs and business operations. As the nation's leading provider of cold storage design and construction services, Primus knows that the success of the thermal seal defines a project. That is why we self-perform thermal envelope—for more control, better outcomes, and greater success for our clients.

THE PRIMUS THERMAL DIVISION

The thermal envelope refers to the components of a cold storage facility that keep products at their appropriate temperatures. This includes the walls, roof, under flooring, vapor barriers and passage doors. The integrity of the seal is critical to its proper function.

Primus's Thermal Division is an award-winning, in-house self-perform group that works alongside Primus's construction management teams to provide seamless coordination for thermal envelope installation services. Having this division in-house improves communication and collaboration during this essential project phase and strengthens our design-build approach.

The Primus Thermal Division has grown to a team of more than 50 people led by Panels Division Manager Eric Boyer. Boyer has more than 20 years of experience in thermal envelope installation. "There is a high cost to our clients if the thermal envelope is not executed properly. Energy savings are affected, and business operations are interrupted," he said. "Primus has the talent and resources in-house to deliver thermal services successfully."

A THERMAL ENVELOPE CASE STUDY

Cold Chain Integrity (CCI) is the largest full-service frozen direct-to-store delivery network in the Midwest. They service over 3,500 grocery stores in seven states and continue to grow. To meet the needs of their expanding client base, CCI chose to build a new 112,000 SF cold storage warehouse at their headquarters in Erlanger, KY. Primus was selected to provide design-build services.

The advantage of having complete thermal installation services in-house is the direct communication between our thermal and construction departments. Boyer worked directly with the construction project manager to finalize the thermal scope and deliver the final price.

Once the contract was awarded, Boyer ordered materials. Primus uses foam-in-place insulated metal panels for walls and doors. Each panel is made up of two pieces of 26-gauge metal with urethane foam-in-place insulation in between. These panels create an air, water and vapor barrier capable of maintaining the freezing temperatures of a cold storage facility.

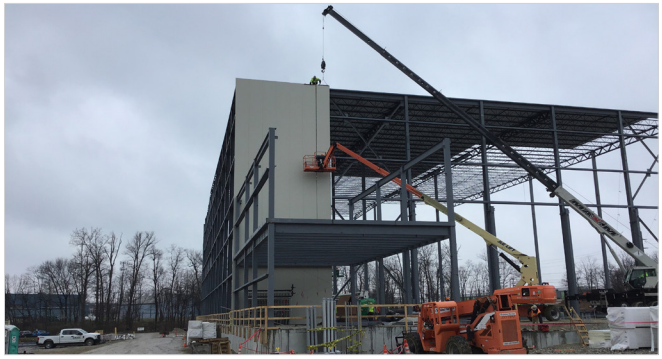
The typical insulated metal wall panel is 45'–55' long. Because CCI uses exceptionally tall forklifts, panels on this project were 69'6". These were the tallest panels installed on any project nationwide in the last five years. Metalspan was the only vendor that could produce them, and it required a truck with a special extension to deliver them safely to the site.

Many thermal installation providers stack shorter panels on top of each other instead of using taller panels. However, the point where the panels meet creates a greater risk of vapor leak. Boyer suggested having the 69'6" panels specially made because using one continuous panel limits spots for potential leakage. He also knew that his crews were sufficiently trained to safely install tall panels.

The greatest risk during installation was a panel breaking in half. Insulated metal panels are finished products – any damage during installation can't be patched in the field. Primus's panel team took measures to protect the materials and ensure a safe project. The seven-person crew broke the work into steps. First, each panel was braced in the center to prevent breakage, and the ground team attached the panels to the crane. Then the crane team attached the panels to the structure, and the roof team worked with the crane team to secure the panels to the building. This system proved to be efficient – Primus's Thermal Division installed 23 panels a day on the project.

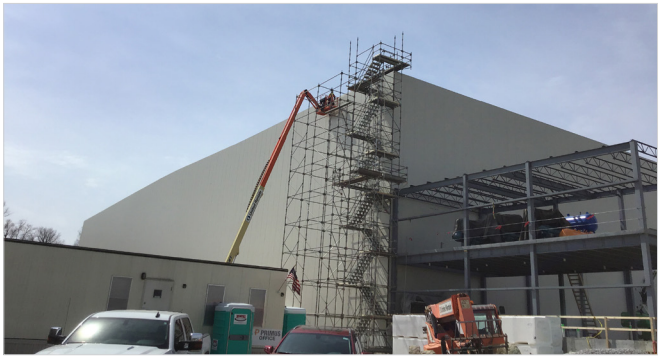
The cost for installing extra long panels is about the same as installing traditional-sized panels. "Freight expense is more than double, but installation is faster, so you make money back in lower labor costs," Boyer said. "More importantly, the extra long panels reduce the risk of vapor leaks, which are extremely costly to repair. For that reason alone I would recommend the extra long panels."

HOW THE PRIMUS THERMAL DIVISION CAN BENEFIT YOU



COLLABORATION

Primus is a national provider of design-build services. All architectural design, engineering, automation design, estimating, construction management and thermal envelope installation services are under one roof. This heightened collaboration reduces errors, improves scheduling and provides savings to owners.

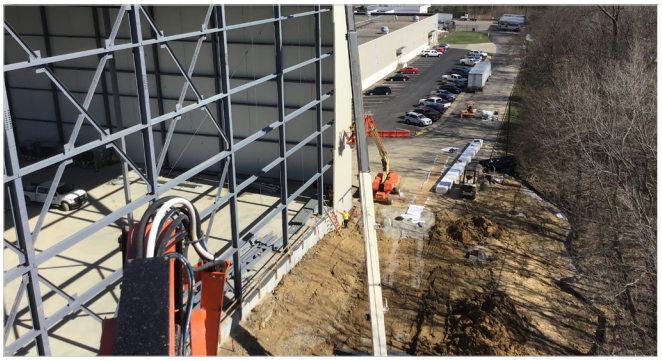


BETTER PRICING

Primus provides thermal envelope installation services all over the country, giving us incredible buying power. Our relationships with national vendors allow us to maximize value and reduce material costs for our clients.

CONTROL OVER THE END PRODUCT

In-house, self-perform crews ensure our high standards are maintained throughout the entire process. Teams are trained in the proper care and storage of materials and how to install them safely and to client specifications.



DEPTH OF RESOURCES

Weather, poor site conditions and other arbitrary incidents can strain a project schedule. Primus's in-house panel crews assist each other all over the country when unanticipated conditions occur, keeping the project on schedule and within budget.

Primus's Thermal Division is regularly ranked on ENR Southeast's list of the region's Top Specialty Contractors. If you are interested in learning more about our award-winning services, contact **Eric Boyer at eboyer@primusbuilders.com.**