

2020 CEBA Controlled Environment Design and Construction Showcase and Company Resource Guide





THE RIGHT CHOICE

FAST. EASY.
INSTALLATION

LONGER. TALLER.
STRUCTURAL SPANS

CUSTOM.
ENGINEERED

Cam-lock insulated panels makes installation quick and easy compared to traditional IMP's. No field cuts required. Flexible design applications and structural spans up to 26' makes KPS Global the right choice.



CEBA Controlled Environment Design and Construction Showcase and Company Resource Guide is published once a year by the **Global Cold Chain Alliance (GCCA)**, an organization that unites partners to be innovative leaders in the temperature-controlled products industry. The GCCA Core Partners are:

The **International Association of Refrigerated Warehouses (IARW)**, which promotes excellence in the global temperature-controlled warehouse and logistics industry.

The **World Food Logistics Organization (WFLO)**, which delivers education and research to the industry and empowers economic development by strengthening the global cold chain.

The **International Refrigerated Transportation Association (IRTA)**, which cultivates, fosters and develops commercial and trade relations between all those engaged in the transportation and logistics of temperature-controlled commodities.

The **Controlled Environment Building Association (CEBA)** represents the design and construction industry specializing in temperature-controlled facilities that prioritize product safety best practices. We are the source for best practices of building and maintaining the thermal envelope.

CONTACT US:

Global Cold Chain Alliance
Attn: Megan Costello
241 18th Street South
Suite 620
Arlington, Virginia 22202
United States

tel +1 703 373 4300 fax +1 703 373 4301
mcostello@gcca.org | www.gcca.org

The Global Cold Chain Alliance welcomes editorial ideas; contact Editor-In-Chief Alexandra Walsh at +1 301 523 3318 or awalsh@associationvision.com. Contact Jeff Rhodes at +1 410 584 1994 or jeff.rhodes@mci-group.com for advertising opportunities in GCCA publications.

Design by SWALLIS Design, San Francisco, California, USA.

While the material in this publication has been compiled with care, the Global Cold Chain Alliance (GCCA) has not validated all of the information contained herein and does not assume any responsibility for its use, accuracy, or applicability. As used above, GCCA shall mean the organization, GCCA Core Partners, and each organization's directors, officers, employees, volunteers, members, and agents.



CONTENTS

- 02 KPS Global: The Right Choice**
- 04 Welcome Letter**
- 05 ESI Group USA: Cold Storage Design & Construction**
- 06 CEBA Goes Virtual**
CEBA Conference & Expo education, business to business meetings and networking to be delivered via the Virtual Innovation Program.
- 09 Viking Cold Solutions, Inc.: Building Now for the Future**
- 10 Tippmann Innovation Honored with CEBA Built by the Best Award**
Meat processing and distribution facility built for wow-factor and innovation but with green space and community in mind.
- 15 Therma-Stor LLC: Quest Dehumidifiers**
- 17 Steel King Industries, Inc.: Cold Storage Solutions**
- 18 Evapco, Inc.: The Power of Low Charge Ammonia Systems**
- 19 Evapco, Inc.: Building a Better Design-Build Process**
- 20 Growing Up in Lebanon**
Expansion includes first ASRS freezer for UCSC.
- 23 Primus Builders, Inc.: The Rapid Evolution of the Grocery Industry**
- 24 Success in Seven**
Primus designs and builds USCS warehouse despite daunting deadline.
- 27 All Weather Insulated Panels: Thermal Protection**
- 28 Company Resource Guide**
- 31 CMC Design-Build, Inc.: Architecture/Engineering/Construction**
- 34 Automha: Your Deep Lane Storage Specialists**
- 35 Jamison Door Company: "Opening the Doors" to New Opportunities**
- 36 Kalman Floor Company, Inc.: Floor Facts**

About the Cover: Owned by Southern Foods, a Cheney Brothers, Inc. (CBI) affiliate, the Southern Foods Meat, Seafood and Cheese Processing Facility in Greensboro, North Carolina, United States, was built by AM King. The 88,000-square-foot facility incorporates a 13,500-square-foot food processing area that includes a distinctive 34-degree (F), 4,200-square-foot dry beef aging room fitted with high-tech temperature and humidity controls. The facility's processing zone also includes a 45-degree (F) seafood processing area, a 35-degree (F) fish storage area and dock and a 34-degree (F) cheese processing room. (Photo courtesy of AM King.)

WELCOME

A MESSAGE FROM MATTHEW OTT



MATTHEW OTT, CAE, CMP
PRESIDENT AND CEO, GCCA

The Controlled Environment Building Association (CEBA), one of the Core Partners of the Global Cold Chain Alliance (GCCA), is a key organization serving the cold chain industry.

CEBA's mission is to fully represent the expert builders who specialize in the design and construction of controlled environment buildings, including cold storage warehouses, food processing facilities, clean rooms, pharmaceutical facilities, and foodservice and retail distribution centers. CEBA is also working to build future talent, offering recruitment and retention programs and exploring other opportunities for talent development; and to implement plans for developing expertise and increase engagement with MEPs, refrigeration engineers and customers.

CEBA is also committed to elevating the perception of the industry by communicating the need for specialization in designing and building thermal, controlled environment facilities and reinforcing how members provide that. A key program to support this goal is the "Built by the Best Award" competition, which each year recognizes excellence in building controlled environment facilities.

The most experienced designers, contractors, manufacturers and suppliers in the controlled environment building industry are CEBA members, and they are all positioned to provide the very best solutions for construction or modernization of any facility. Each year we highlight these experts in our Controlled Environment Design and Construction Showcase. You'll see categories including design and construction services, architecture and engineering, low-charge ammonia systems, automation solutions, floors, doors, panels, insulation, racking, forklifts and more.

I encourage you to read this Showcase to see the exciting innovations member companies are using to advance the cold chain through building design, construction, and modernization, and to use this Showcase to find your next temperature-controlled building specialist. ☎



**DEMONSTRATE
YOUR
COMMITMENT
TO SAFE AND
SANITARY FOOD
TRANSPORTATION**

[WWW.GCCA.ORG/
CERTIFIEDCOLD CARRIER](http://WWW.GCCA.ORG/CERTIFIEDCOLD CARRIER)

**A Program of the
Global Cold
Chain Alliance**

Cold Storage Design & Construction



Our reputation was built
on keeping cool.



When you make the decision to take your business to the next level and need advice on **design** and **construction** services for your food facility, ESI Group USA can deliver the expertise to get you there.



Offices: California | Nebraska | Pennsylvania | Texas | Corporate-Wisconsin



CEBA Conference & Expo education, business to business meetings and networking to be delivered via the Virtual Innovation Program.

As this issue of COLD FACTS was about to print, the CEBA leadership made the challenging decision to cancel the face to face CEBA Conference & Expo and include components of the CEBA educational program and expo in the newly launched Virtual Innovation Program taking place October 14 - November 10, 2020 via an online platform. The new virtual event will offer educational opportunities for CEBA members via the Cold Chain Essentials component of the new event. The Cold Chain Collaboration feature will allow CEBA members to connect with one another, warehouse/3PL partners and food companies, replicating all the powerful connections and interactions found at the conference.

Cold Chain Essentials – Education

A highlight of the Conference is the presentation of the 2020 Built by the Best Award entries as case studies. This year, they will be presented virtually. The award acknowledges industry-changing innovations and projects that exceed customers’ expectations, positively impact and grow the cold chain worldwide, and contribute to the larger society through food safety, trade development, and job creation. Teams from each finalist company will present their controlled environment project to participants of the Virtual Innovation Program, allowing attendees to walk away with practical ideas and inspiration.

In addition to the case studies, there will be presentations by industry thought-leaders, sharing results of a recent survey of CEBA members regarding the impact of COVID-19 on the design/construction of controlled environment facilities.

Industry Idea Exchange – Construction

Participants will discuss critical industry issues. The roundtable conversations provide participants a chance to share ideas, ask questions and solve problems in specific areas with their peers in a small group setting.

Past topics included workforce retention, food safety, sustainability, automation and technology, profitability, project management, workplace safety and differentiating your value and expertise as a controlled environment construction specialist.

Cold Chain Collaboration – B2B Meetings

The B2B Meetings Program is not a virtual tradeshow but instead enables strategic and pre-scheduled dialogue between CEBA members and key industry contacts.

To provide quality connectivity and business conversations that would have occurred at the CEBA Conference & Expo, CEBA is offering a virtual business meeting platform for members from across the world to engage in strategic dialogue to expand existing relationships and provide access to new business contacts.

Some of the most respected companies in the industry will virtually participate showcasing the latest technologies, solutions, products and services to attendees. Here is a sampling of the products and services that have been featured at past expos:

- Fire Detection Systems
- Flexible Walls
- Flooring
- Insulated Panels
- Insulation
- Lighting
- Materials Handling
- Racking
- Refrigeration Solutions
- Roofing

Industry Connectivity

The Virtual Innovation Program will provide opportunities for knowledge sharing, learning, peer to peer information exchanges, business to business meeting and much more. It’s so important now for the industry to come together to share solutions, ideas and camaraderie.

This is the only event in the world dedicated to best practices in controlled environment facility construction, design and maintenance, and serves to further CEBA’s vision to be the association where anyone looking to build, renovate or modernize a first-rate, innovative facility comes to find the most experienced designers, contractors, manufactures and suppliers. To learn more, visit <https://www.gcca.org/ve>. 📞

- Cold Storage Contractors
- Doors
- Energy Efficiency Solutions

IS YOUR FACILITY A GOLD-STAR ENERGY LEADER?



The GCCA Energy Excellence Recognition Program was designed to help your warehouse facility:

- ✓ **GET AN ACCURATE PICTURE OF YOUR ENERGY CONSUMPTION**
- ✓ **EVALUATE YOUR COMPANY'S ENERGY CULTURE**
- ✓ **IMPROVE ENERGY EFFICIENCY**
- ✓ **GAIN RECOGNITION FOR IMPROVED ENERGY USAGE**
- ✓ **EXPLORE RESOURCES TO IMPROVE FOR THE FUTURE**

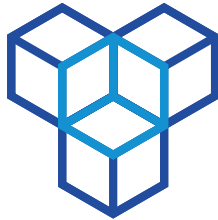
160 FACILITIES have already made a commitment to improving the cold chain

Sign up and learn more at
www.gcca.org/energyexcellence



VIRTUAL INNOVATION PROGRAM

OCTOBER 14 - NOVEMBER 10



COLD CHAIN ESSENTIALS

A new, affordable virtual learning series aimed at delivering essential content for individuals of all levels within all segments of the global GCCA membership.

**Executives | Facility Operations | Supply Chain/Transportation
Engineering | Construction | Customer Engagement | Innovation**



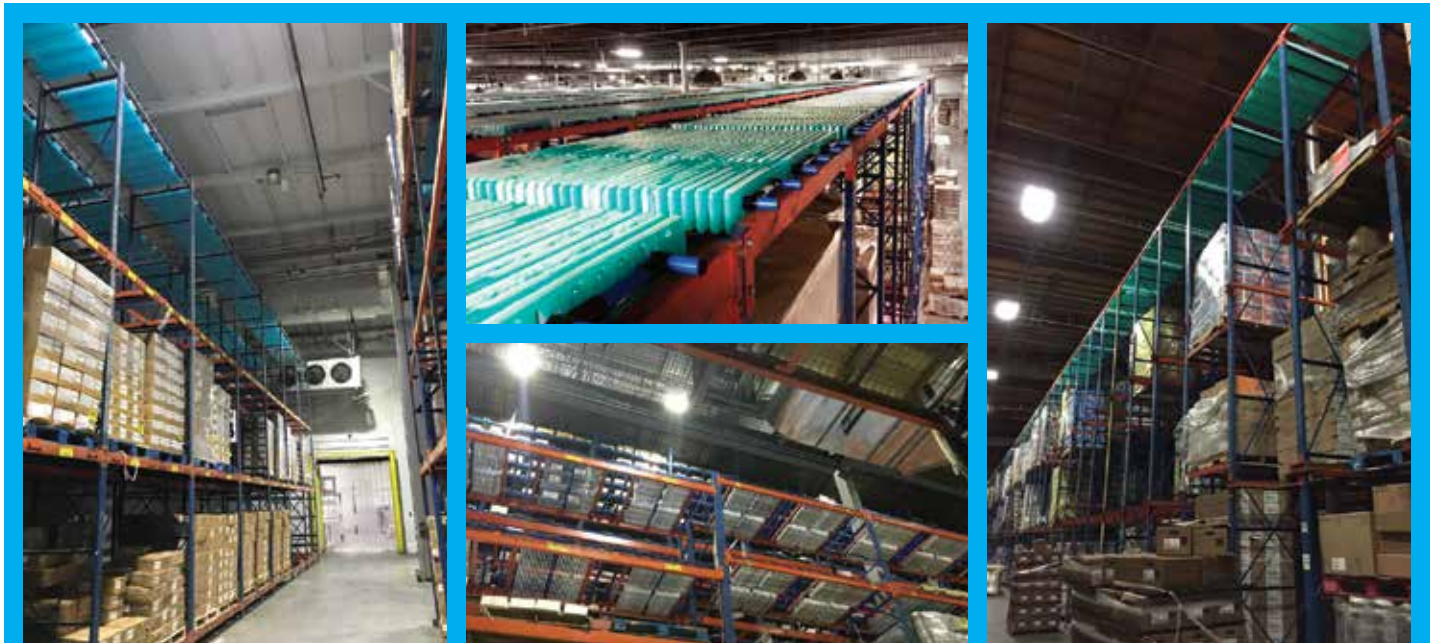
COLD CHAIN COLLABORATION

Not a virtual tradeshow, our virtual business meeting platform will allow GCCA members from across the world to engage in pre-scheduled meetings with qualified participants.

LEARN MORE AT GCCA.ORG/VE

Building Now for the Future.

Proven sustainability technology that lowers
the lifetime operating costs of cold storage facilities



Thermal Energy Storage technology is proven
to be cost effective, energy efficient, and resilient.

- Lasts the life of the freezer with no maintenance
- Lowers energy costs up to 25% or more
- Adds temperature resiliency during loss of refrigeration
- Reduces refrigeration equipment runtime and maintenance costs

Contact us for an estimate that is easily added to your next proposal.

The three-acre park with basketball court, baseball field, playground and workout area that Wolverine Packing Company gifted back to the city can be seen behind the facility. (Photo courtesy of Tippmann Innovation.)



TIPPMANN INNOVATION HONORED WITH CEBA BUILT BY THE BEST AWARD

Meat processing and distribution facility built for wow-factor and innovation but with green space and community in mind.

With 82 years of experience behind it, Wolverine Packing Co., based in Detroit, Michigan, is one of the nation's leading producers of meat, processing more than 8 million burgers a week.

Rob Adams, a partner with Fort Wayne, Indiana-based Tippmann Innovation, remembers the initial meeting he had with leadership at Wolverine. They had come together to discuss Wolverine's desire for a new meat processing and distribution facility to be located in Detroit, where the company already operated four other processing plants.

"We worked with Jay and Jim Bonahoom of Wolverine for several years about where they wanted to build this project and we laid out multiple buildings on different sites before we landed on where we did," Adams says. "It was a long process of finding the right location and coming up with something that would fit all their needs."

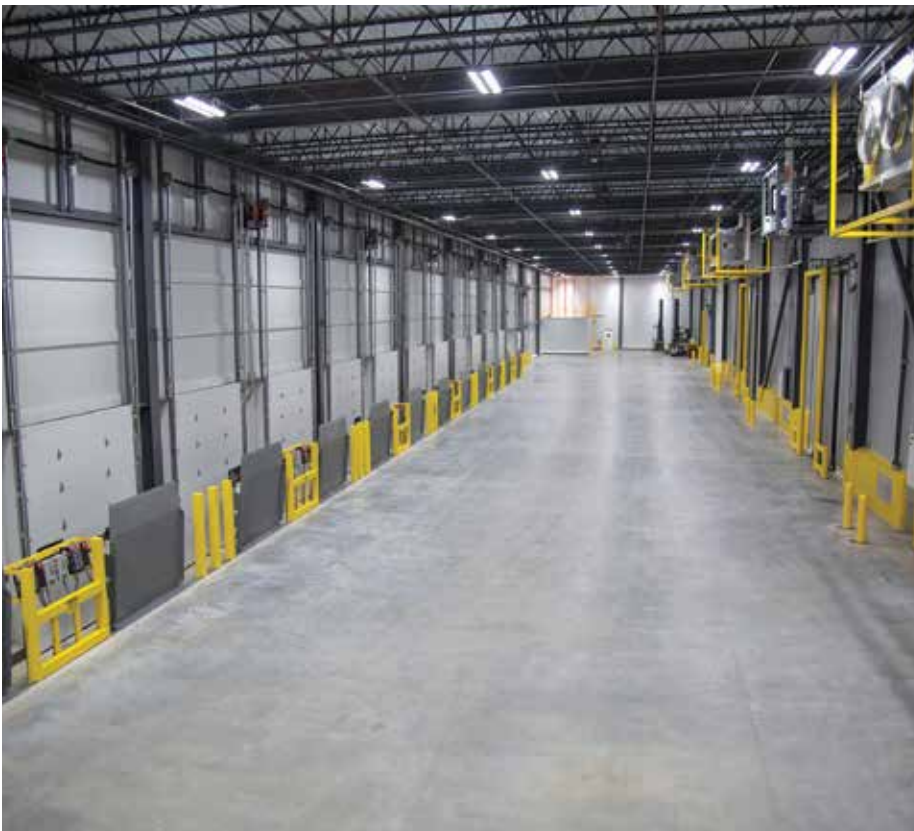
The result of the 180,000-square-foot project, which was completed in February 2019, is a state-of-the-art cold storage warehouse that not only allows Wolverine to expand its operation, but provides a variety of benefits to the surrounding community as well.

The facility is home to approximately 20,000 pallet positions of storage space, a 50,000-square-foot processing area and the QuickFreeze In-Rack Freezing System (QF+), considered the most innovative and energy efficient racking system on the market.

The outstanding work earned Tippmann Innovation the CEBA Built by the Best Award for 2019. The award was presented on



Tippmann Innovation was named the winner of the 2019 CEBA Built by the Best Award competition. The award was given at the 39th CEBA Conference & Expo. L to R: CEBA Chairman Vince Free with Tippmann Innovation's Sam Tippmann, Rob Adams and Josh Koester. (Photo courtesy of Tippmann Innovation.)



Trailer dock doors allow trucks to pull directly into the freezer keeping cool air in and warm air out. (Photo courtesy of Tippmann Innovation.)

November 15, 2019, during a general session at the 39th CEBA Conference & Expo.

“We are a national contractor that specializes in the construction of cold storage facilities, and what was nice about this award is that it was given to us by peers in the industry; people who are industry specialists and recognize us as a company that can execute the quality and standards needed in a modern cold storage warehouse,” Adams says. “It was really gratifying.”

Innovation Abounds

It was important to all involved to build a facility with a wow-factor, something that would be technically superior and pave the way for the future.

“A lot of innovative equipment was used in the development of the processing facility,” Adams says.

For instance, the warehouse boasts a conveyor system that easily transfers meat from the 50,000-square-foot food processing room to the adjacent 125,000-square-foot freezer.

Then there’s the QF+, which Adams notes is nothing like traditional blast freezers as the system pulls warm air away from the middle of the pallets instead of blasting cold air at them. This provides a rapid, even freeze of products while at the same time producing



(L to R) The new Wolverine Packing Company processing and distribution center has 20,000 pallet positions of storage space. (Photo courtesy of Tippmann Innovation.) The QF+ blast freezer provides a rapid, even freeze of products while producing less waste and requiring less energy. (Photo courtesy of Tippmann Innovation.)

less waste and requiring less energy.

Additionally, the mezzanine above holds air compressors and other equipment that allow for maximum storage and processing space, while stainless steel slope and slot floor drains cover the processing room floor, eliminating an additional step in the clean-up process.

Although combining processing, freezing and distribution efforts under one roof created some hurdles, Tippmann Innovation worked with a number of reliable local companies to help install industry-leading systems to create a warehouse that could produce, pack, freeze, store and ship, all within the same facility.

Investing in the Community

Wolverine wanted to continue its relationship with the Detroit community and opted to build the site in Detroit's Eastern Market. The company acquired Forest Park, a city-owned park that had seen better days, but was directly adjacent to the market.

"There was never a question that it would be built in Detroit, because that's where the existing facilities were located and it made sense to be there," Adams says.

With its long history in cold storage construction, Tippmann Innovation had experience dealing with brownfield sites before. So building a site on what was once 60 parcels that covered 32 homes (the basements still

remained underneath) posed little challenge to the company, other than dealing with complex permit processes and administrative challenges.

"Because the site had those 32 houses and all kinds of stuff you would not want to see underground, we had to dispose of it in the correct way environmentally," Adams says. "We had great local contribution from contractors and a great team overall."

Tippmann Innovation was also able to help Wolverine secure a fire variance for the new facility, saving the company millions of dollars in the process.

But it wasn't just about building a new facility. Wolverine also used the space to

"It was important to all involved to build a facility with a wow-factor, something that would be technically superior and pave the way for the future."

create a new, modern three-acre park complete with a walking path, basketball court, baseball field, playground and workout area that the company gifted back to the city.

This investment, in conjunction with the new freezer warehouse, provided jobs for the community and brought attention to the new plant.

Sustainability Considerations

Another project component of chief importance to Wolverine was developing a building that worked sustainably. Tippmann Innovation is well versed on designing energy-efficient warehouses, and was able to deliver on the entire project with sustainability in mind.

Adams cites the high-quality refrigeration room, QF+, the installation of energy saving lighting systems, tankless water heaters to provide instant and efficient hot water, and the various other efforts around the property.

He explains the state-of-the-art refrigeration room is fully equipped with Frick Refrigeration's highest quality equipment, which utilizes a BFD compressor on the primary load in the engine room that helps better trim the loads in comparison to tradi-

tional compressors. It also utilizes a micro-processor that has a specialized combination for energy management load shedding.

"The engineers designed a specialized piping system that allows the QF+ room to run on shared capacity from the main freezer when the building is running at a lower capacity," Adams says. "The dedicated low load temperature system is only used when the building is running at a high capacity, giving Wolverine the option to run the QF+ freezer on the same system as the rest of the facility during slower times."

Therefore, Frick's system helps Wolverine save a significant amount of energy and money.

Other energy and cost saving elements in the freezer and processing center include energy efficient touchless fixtures, motion sensor lighting, and a clean-up mode that uses less water than traditional wash down systems.

Additionally, trailer dock doors are "drive in" style, allowing trucks to pull directly into the freezer, keeping cool air in and warm air out. The doors from the dock to the freezer also reduce energy waste thanks to a bi-parting design that keeps cold air in the freezer better than traditional door designs.

"Not only were the refrigeration room and freezing and processing equipment built for energy efficiency and cost savings, but other design details inside and outside of the facility were crafted to ensure economic, environmental and social sustainability," Adams says.

For example, a ductless mini-split system was installed adjacent to the freezer in areas far from major air conditioning units, allowing those areas to stay cool while in use, but not use energy from the rooftop systems when not in use.

A Job Well Done

Of course, a project of this magnitude isn't executed without some challenges, and a tight schedule for completion was one. But despite some site-related issues with removing soil and satisfying safety requirements, and obstacles related to working in an existing neighborhood, which meant not much staging could be done on-site, Adams notes it was a relatively stress-free project.

"Along with the local companies, we had a really great contribution from national contractors who are specialists in cold storage to help us build this, and the entire team did an outstanding job," Adams says.📍



2019 Built by the Best Award-Winning Supplier Profiles

These are the companies integral to the success of the winning project.

ALL WEATHER INSULATED PANELS

With over 90 years of combined industry experience, All Weather Insulated Panels is an innovator in the design, construction and advancement of insulated metal panels to meet the growing challenges facing the building industry. www.awipanel.com

CASCADE ENERGY

Cascade Energy, the nationally recognized leader in industrial refrigeration energy efficiency, works with corporations, utilities and industry associations to improve energy planning, engineering and management. With deep technical expertise, a full complement of services and more than twenty years of hands-on experience, Cascade has a proven track record of reducing industrial energy consumption and costs. www.cascadeenergy.com

CROWN

Crown is one of the world's largest material handling companies with a reputation for award-winning product design, advanced engineering and technology, and superior after-sale service. Crown's business philosophy utilizes vertically integrated processes to design, manufacture and distribute forward-thinking, innovative solutions that improve customers' productivity and operating efficiency. Crown produces a broad range of forklifts as well as automation and fleet management technologies. The company's global headquarters is located in New Bremen, Ohio, USA, with regional headquarters in Australia, China, Germany and Singapore. Its employees number more than 15,500 worldwide. Crown operates a service and distribution network that exceeds 500 retail locations in over 80 countries. www.crown.com

CSI OF VIRGINIA, INC.

CSI of Virginia is a group of companies promoting and selling insulated panels and doors to build coolers, freezers and non-refrigerated

buildings. We are the exclusive U.S. Distributor for General Plastics R-9300 Thermal Isolation Blocks, AWIP Insulated panels, Eco-Cold Low Temperature doors, Owens Corning extruded polystyrene floor and roof insulation, and high speed rolling doors for low temperature applications. In addition we inventory aluminum tees for ceiling suspension available for immediate shipment. We work with a network of low temperature and refrigeration contractors that specialize in insulated panel construction. Affiliated Offices: Albany, NY; Richmond, VA; Atlanta, GA; Jacksonville, FL, Dayton, OH; Dallas, TX; Houston, TX. www.csiinc.org

DANFOSS

Our uncompromising focus on quality, reliability and innovation allows us to help our customers create a more sustainable world by delivering smart and energy efficient products, services and solutions. Across the world, our sustainable smart technologies power industries and cities, secure a reliable food supply, and create healthier, more comfortable indoor climates. They drive the uptake of renewables for tomorrow's smart energy systems, where shipping and on- and off-highway machinery are powered by hybrid and electric motors. www.danfoss.com

DOW BUILDING SOLUTIONS

Dow Building Solutions serves the global building, construction and related markets with industry-leading insulation, house-wrap, sealant and adhesive products, as well as complete systems. Through its extensive manufacturing, sales and technical support organization, Dow Building Solutions continually creates novel solutions for improved energy efficiency in buildings today, while also addressing the industry's emerging needs and demands. www.dupont.com/building.html

DUPONT

After more than 200 years of innovation, DuPont is entering a new era of discovery. Our community of scientists, engineers, visionaries and all of our partners are working every day to turn possibilities into real world answers that help humanity thrive. Explore how DuPont is shaping a better world. www.dupont.com

EVAPCO INC.

International manufacturers of Low Charge Ammonia Packages, Evaporative Condensers, Evaporators, Cooling Towers, Closed Circuit Coolers, Heat Exchangers, Recirculation and Transfer Systems. Plants located in Taney-

town, MD; Greenup, IL; Bryan, TX; Madera, CA; Lake View, IA; Milano and Sondrio, Italy; Johannesburg, South Africa; Kingsgrove NSW, Australia; Shanghai and Beijing, China; Tongeren, Belgium; and Flex coil a/s Aabybro, Denmark. www.evapco.com

FASTENER SYSTEMS, INC.

Specializing in fasteners for all types of cold storage, food processing & refrigerated warehouses. Stocking stainless, self-drilling, self-tapping, ZACS® and explosion release fasteners. FABLOKS®, long length teks and roofing screws in stock. Tools, accessories, INSTA-FOAM®, tapes, caulks and butyl. The originators of POLARFAST®, the concealed panel screw. Fast overnight delivery. www.fastenersystems.com

FRICKS COMPANY

Industrial concrete floor contractor providing superior workmanship and outstanding customer satisfaction. The Fricks Company is the recognized leader in premium food facility, manufacturing and distribution facility floor construction. www.fricksc.com

HANSEN TECHNOLOGIES

Hansen Technologies offers an extensive line of components for industrial refrigeration systems including control valves, pressure relief valves, refrigerant pumps, air/water purgers, defrost and level controls, and gas leak detection. Look to the leader for innovative products, excellent customer service and outstanding technical support. www.hantech.com

HONEYWELL

Enovate® 245fa blowing agent is today's preferred choice for superior insulation performance with HFC technology from Honeywell, a world leader in energy management. Honeywell recently introduced Solstice®, the next generation of low global warming, high energy efficiency foam blowing agents and refrigerants engineered to enhance metal panel, spray insulation, and appliances with advanced thermal performance and energy savings using state-of-the art HFO technology. Contact Honeywell for more information. www.honeywell.com

JOHNSON CONTROLS

At Johnson Controls, we transform the environments where people live, work, learn and play. From optimizing building performance to improving safety and enhancing comfort, we drive the outcomes that matter most. We deliver our promise in industries



QUEST
DEHUMIDIFIERS

FROST IS YOUR ENEMY.
QUEST IS YOUR ALLY.



Conquer Condensation, Mold and Mildew
Defend Your Facility and Its Contents
Boost Effectiveness of Refrigeration Systems



questclimate.com
877-420-1330
sales@questclimate.com

such as healthcare, education, data centers and manufacturing. With a global team of 105,000 experts in more than 150 countries and over 130 years of innovation, we are the power behind our customers' mission. Our leading portfolio of building technology and solutions includes some of the most trusted names in the industry, such as Tyco®, York®, Metasys®, Ruskin®, Titus®, Frick®, Penn®, Sabroe®, Simplex®, Ansul® and Grinnell®.
www.johnsoncontrols.com

LIFTMASTER

LiftMaster is the number one brand of professionally installed residential garage door openers, as well as a major manufacturer of commercial door operators, residential and commercial gate operators, telephone entry systems and related access control products. Driven by the access and security needs of the marketplace, LiftMaster's expansive line of state-of-the-art residential and commercial products are designed to fit any lifestyle or application, providing the latest technology and innovations in safety, security and convenience. www.liftmaster.com

M & M REFRIGERATION

M&M Refrigeration Inc., founded in 1969, designs and manufactures Screw compressor packages (over 70 Models), Piston compressor packages (28 Models 6 High Pressure), CO₂ Cascade Systems, Pump circulation packages, Pressure vessels of all sizes, Ice Rink packages, Microprocessor control systems, Chiller packages, and System design. Professional Service Technicians and Parts are available 24 hours a day, 7 days a week.
www.mmrefrigeration.com

METL-SPAN

Manufacturers of Factory Mutual Class I polyurethane foamed-in-place panels and polystyrene laminated insulated panels for the construction of cold storage, freezer, food processing and meat plants. Metl-Span also supplies panels for ambient buildings for commercial and industrial use. Find out why Metl-Span makes the most thermally efficient panels available today. www.metlspan.com

OWENS-CORNING FOAMULAR

Owens Corning Foamular® extruded polystyrene insulation is a high density insulation designed for use in engineered applications requiring high thermal performance, high load bearing capability and low water absorption. Owens Corning's Foamular® is an extruded polystyrene, closed cell panel

foam with continuous skin and back surfaces. Owens Corning's patented Hydrovac® process technology makes the unique closed cell structure of Foamular® insulation highly resistant to moisture, retaining excellent R-value year after year, even following prolonged exposure to humidity, condensation, ground water and freeze thaw cycling. Owens Corning Foamular® extruded polystyrene is ideal for under slab, cold storage applications concrete floors and roofs requiring high load bearing applications. Foamular® is also the preferred extruded polystyrene for use as pipe insulation for ammonia refrigeration lines.
www.owenscorning.com

RITE-HITE CORPORATION

Rite-Hite® is a world leader in the manufacture, sale, and service of loading dock equipment, industrial doors, safety barriers, HVLS fans, and more innovative products. We offer several products designed specifically for the cold storage industry, including high-speed doors, insulated curtain walls and loading dock equipment. Rite-Hite works closely with each customer to meet their needs. Our Global Distribution Network means there is a local representative near by to provide solutions, service, and expertise at the loading dock, and inside the facility. www.ritehite.com

S & S REFRIGERATION

General refrigeration contractor specializing in design and construction of walk-in coolers and freezers, serving food, beverage, pharmaceutical and specialty markets for over 60 years. www.ssrefrig.com

CHASE DOORS (A SENNECA COMPANY)


Attention to environmental control can be critical. A variation of a few degrees can make a big difference in your cold storage and freezer applications. Chase Doors minimizes that difference with Cold Storage Doors, Insulated Impact Traffic Doors, Strip Doors, Insulated Corrosion-Resistant Doors, Fiberglass Doors and Fire Doors. All products are custom manufactured to your exact specification and provide years of trouble free service. www.chasedoors.com

UPS FREIGHT

GCCA has partnered with UPS Freight to create the Association Shipment Program which offers specialized pricing discounts for members on qualifying LTL (Less-Than-Truckload) shipments. Take advantage of the pricing discounts by contacting the associa-

tion hotline at 866.443.9303 ex. 4080 or email upsfreightassociations@ups.com. Just mention you are a member of GCCA to qualify for the discount program. Enrollment in the program is free, with no obligations or minimum shipping requirements. The UPS Freight Savings Program applies to shipments weighing 150 lbs to 20,000 lbs that are shipments billed collect to your company, prepaid shipments from your company, and shipments billed to your company as a third party.
www.upsfreight.com

VICTAULIC

Since 1919, Victaulic has been the world's leading producer of grooved mechanical couplings and pipe-joining systems. Used in the most demanding markets, Victaulic innovative piping technologies put people to work faster while increasing safety, ensuring reliability and maximizing efficiency. The company has 13 major manufacturing facilities, 28 branches worldwide and over 3,600 employees who speak 43 languages across the globe. With more than 1,900 patents, Victaulic solutions are at work in 140 countries across diverse business lines including oil and gas, chemical, mining, power generation, water and wastewater treatment, military and marine, as well as commercial building and fire protection.
www.victaulic.com 

COLD STORAGE SOLUTIONS

Extreme Makeover in Extreme Cold

Can a cold storage rack system be replaced without a shut-down?

Americold, a global provider of temperature-controlled infrastructure, knew a great deal of the rack in their Wisconsin facility was outdated, but they could not afford to shut down the busy facility in order to replace it.

To update their rack while maintaining existing operations, Americold worked with Steel King Industries, a Wisconsin-based rack manufacturer known for its expertise in both cold storage design and heavy-duty rack manufacturing.

Retrofit challenges

Atlanta-based Americold is a third-party logistics (3PL) company serving producers, retailers and foodservice providers with a network of 177 temperature-controlled warehouses.

Their Wisconsin facility utilizes drive-in rack, a cost-effective, high-density storage system that allows direct forklift access. With drive-in rack, pallets support the load, resting on horizontal rails at either side of the lane. Forklift operators drive into the system to load and unload pallets.

This system provides a practical balance between storage density and selectivity. However, these racks were outdated and worn, and replacing them while keeping the facility operational would not be easy.

“[Steel King] made the process pretty much seamless.”

“Rack replacement in an existing facility requires a lot of coordination, and there are issues around having to remain operational during a retrofit,” said Phil Beaulieu, Director of Engineering for Americold. “Steel King was willing to work with us to design around the racking that we wanted to keep and to develop a rigorous retrofit schedule that enabled a rolling install.”

The working environment also posed a challenge for the rack design crew, project manager and installers alike. The site survey and rack build crews worked long hours in freezer suits and heavy gloves, documenting building structures and obstacles in -10 degree temperatures.

“With an older building, the original architectural drawings are not always 100% accurate, and field measurements are essential,” said Beth Randrup, Steel King’s project manager.

Working space was at a premium, requiring creative solutions for staging tools and materials, without interfering with operational traffic.

Rigorous retrofit schedule enables rolling install

Steel King worked with Americold’s team to schedule demolition, deliveries and installation with minimal disruption. “They made the process pretty much seamless,” said Beaulieu.

Rack demolition crews kept one sector ahead of the installation crews. As one area was complete, it would be filled with the product from the next area to be demolished. This kept the number of out-of-commission storage bays to a minimum.

Reduced maintenance costs

Cooling a space the size of a warehouse comes at a premium. The denser the storage, the easier it is to cool, so narrow aisles are inherent to a facility of this type. Compounded by the dimly lit workspace and the speed at which lift drivers operate, forklift impact on the rack is inevitable.

The Steel King designers mitigated these issues with a variety of design improvements to reduce future maintenance costs:

Bolt-on rub rails were installed to protect vulnerable surfaces in high traffic areas.

Custom-engineered uprights – featuring heavy horizontal braces within the rack frame

Cantilevered legs – to keep front rack columns out of the forklift path, some sections of rack were designed with offset front uprights

Welded-on column protectors in areas most vulnerable to impact

Custom-designed guards at row ends

Finally, an upgrade to the over-dock storage area increased the storage capacity of the system, eliminated clutter and improved efficiency.



Rack demolition crews kept just one sector ahead of the installation crews, keeping the number of out-of-commission storage bays to a minimum.

“By re-engineering the ceiling-supported system, we were able to increase both the amount of storage space and the load capacity,” said Randrup of the new design. “Steel King’s AWS-trained team field-welded the modifications needed.”

Choosing the right rack partner

Americold’s Wisconsin freezer facility approached its renovation project with the ambitious goal of updating its rack system without interrupting workflow. In addition, they sought a rack partner who could provide long-term value.

Steel King’s superior design, advanced engineering, and precision manufacturing not only improved the rack system’s durability, but also significantly increased the number of pallet positions.

“They are a preferred vendor because of the quality of their product and attention to detail. I have worked with them for 25 years and consider them my go-to racking company,” said Beaulieu.



STEEL KING®

BUILT TO DELIVER

For more information,
contact Steel King at **800-826-0203**
www.steelking.com



The Power Of Low Charge Ammonia Systems

Reduce the construction costs of your cold storage building and provide the end-user with a lower cost of ownership by installing Evapcold Low Charge Ammonia Packages. Eliminate the central machinery room, reduce the field electrical scope, eliminate or reduce roof supported pipe headers, stands and hangers, shorten the project construction schedule and reduce your overall risk with the Evapcold family of products.

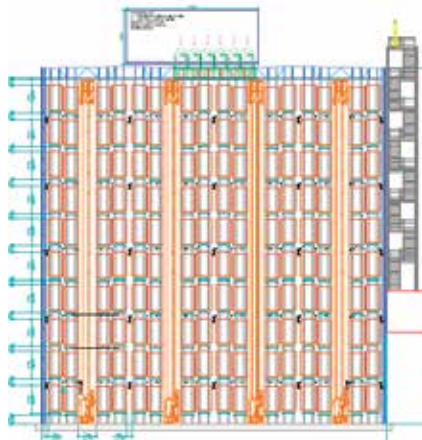


To take advantage of these lower building costs the architectural, structural, electrical and mechanical design team needs to incorporate the packaged solution into the building design early in the project development process. This will guarantee that the material take-offs and subcontractor bids are based on the associated reduction in building scopes and the cost savings are recognized by the General Contractor and passed on to the Owner. The design-build process, common for refrigerated facilities, lends itself to making these new cost saving improvements happen, but if the building is designed “the same old way” then they are harder to achieve.



The Evapcold design can provide a shorter construction schedule:

- ✓ Evapcold units can be manufactured & shipped in parallel with building steel fabrication and erection.
- ✓ Units have a very short installation time.
- ✓ Less on-site labor than field erected systems.
- ✓ Factory testing leads to quick & trouble-free startup.
- ✓ Refrigeration no longer the project’s critical path.





Building A Better Design-Build Process

Eliminate all the roof ammonia pipe headers, save your roof & lower your electric bill – all at the same time. The typical long piping headers associated with stick-built ammonia systems lead to many problems. They create a lot of roof maintenance, cause mechanical integrity problems with piping and insulation, plus consume energy.



Recognize the cost savings from the reduction in field electrical work because Evapcold units include all necessary starters, controls and are prewired, which greatly reduces the site electricians scope and price. This also includes the elimination of costly underground electrical work associated with a central machinery room.



Eliminate the central machine room with Evapcold packages and transform the saved space into revenue generating product storage space or additional dock doors. They are also a great solution for “tight sites” because eliminating the machine room allows your building to be larger.

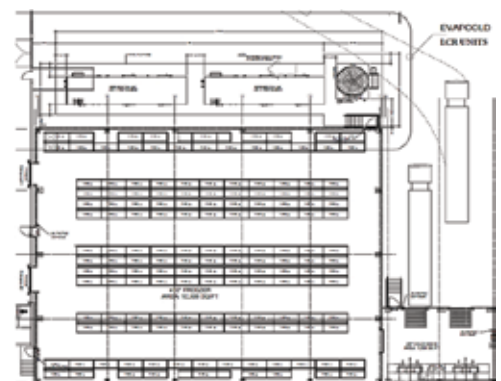
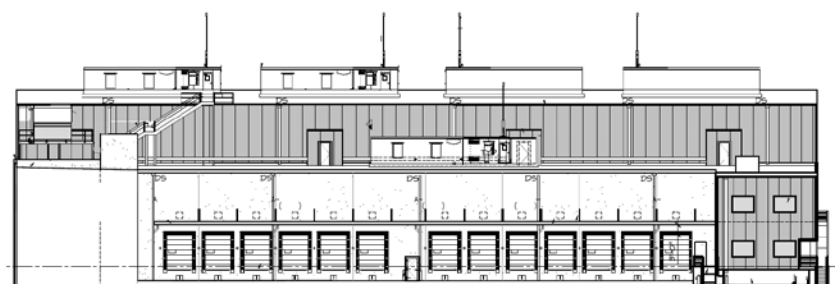


Evapcold design can Reduce the Building Cost:

The General Contractor & Owner need to be aware that the following items will bring savings to the project:

- ✓ Eliminating or reducing the size of the central machinery room and roof supports for ammonia pipe headers.
- ✓ Planning for the required roof steel will minimize any structural cost impact for the packaged units and recognize savings from no ammonia roof headers.
- ✓ Recognize the cost savings from the reduction in field electrical work because Evapcold units are prewired.
- ✓ Reduction in the GC’s monthly “site general conditions” cost because the building construction schedule can be shorter.

Evapcold Family of Low Charge Ammonia Products





GROWING UP IN LEBANON

Expansion includes first ASRS freezer for UCSC.

In 2017, the City Council in Lebanon, Indiana, approved two tax abatements to facilitate a \$29 million expansion of the United States Cold Storage (USCS) warehouse and distribution center in the town. The 120-year-old company knew just what design/build contractor to turn to get the job done – United Insulated Structures Corp. (UISC), based in Berkeley, Illinois.

“We were engaged by United States Cold Storage to do an expansion at their existing facility in Lebanon, as I had built their original facility there 10 years ago,” says Richard Maleczka, Senior Vice President and Partner for United Insulated Structures Corp. “The expansion would extend the facility to 350,000 square feet and 40,000 pallet positions.”

The goal of United States Cold Storage was to have its first fully automated freezer as part of the Phase II expansion. The job required

UISC to design, engineer and construct both a new 43,000-square-foot conventional freezer addition with a 40-foot clear height, and a new 80-foot tall, 57,000-square-foot ASRS freezer.

“We worked side by side with the automation contractor to ensure a seamless integration of the automation systems with no conflicts and everything built according to the owner’s requirements,” Maleczka says.

The expansion includes a 3.5 million-cubic-foot freezer with an automated storage and

retrieval system, as well as a 1.7 million-cubic-foot freezer for conventional storage. Additionally, the project called for 10,000 square feet of +40° Fahrenheit truck dock, 16,000 total pallet positions and 100,000 square feet of trailer parking.

Breaking in Winter

The project broke ground in January 2018, setting in motion the first challenge for UISC.

“It’s hard to break ground on any project in the Midwest when there’s snow on the ground. On top of that we had to perform soil improvements with lime stabilization before we could start the foundations,” Maleczka notes. “With an 80-foot tall structure, we encountered other challenging weather conditions from the consistent high winds. We felt as if we were building in Windy-ana instead of Indiana.”

Another challenge from the outset was the expansion work was being done while USCS

(Left) United States Cold Storage's \$29 million warehouse and distribution center expansion in Lebanon, Indiana, was designed and built by United Insulated Structures Corp. (Photo courtesy of UISC.)

remained in operation. UISC had to ensure no aspect of the project got in the way of the facility's smooth operation.

"We coordinated daily with our client to ensure we didn't impede their existing operation; they couldn't be affected by our work," Maleczka says. "This resulted in separate construction entrances for workers and deliveries, including dedicated material laydown areas so as not to disrupt our client."

Working at Height

Because of the building's height, Maleczka explains it caused some challenges related to the refrigeration piping accessibility to install the piping. There were also challenges in overcoming the effects of gravity on the pumping requirements of the liquid CO₂.

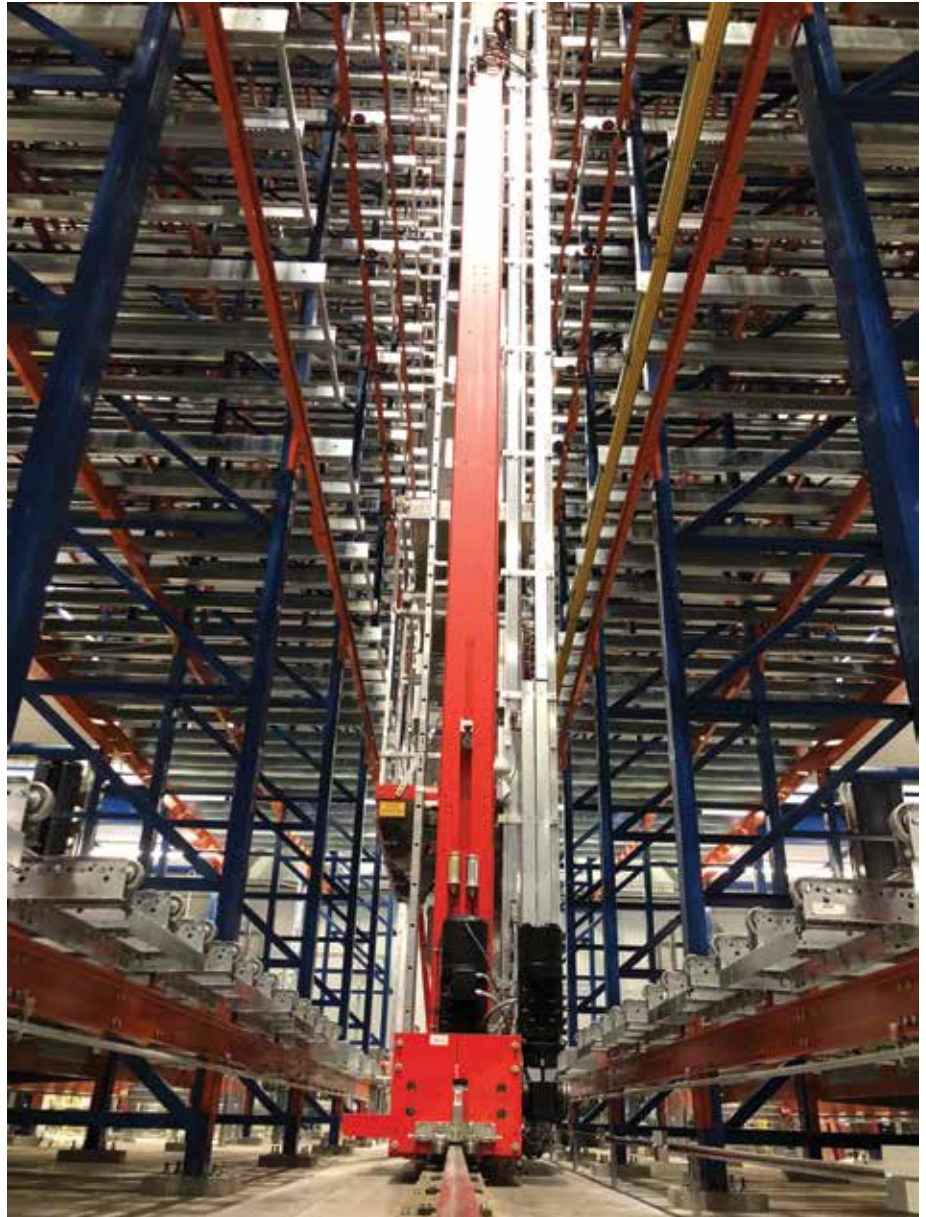
"For that reason, the piping was installed from the upper roof down to the lower rather than from the lower roof to the upper roof," he says. "The risers were fabricated on the upper roof and then swung into place."

Additionally, new CO₂ pumps were installed with higher discharge pressure to overcome the effects of gravity. However, this also raised the feed pressures to the existing evaporators, creating another challenge as the complete liquid feed system to the evaporators had to be rebalanced for proper flow.

"We also wanted to control how fast the pressure would build in the liquid line in order to not liquid hammer the piping," Maleczka says. "This is accomplished by installing VFDs and using them to ramp the pump speed at a controlled rate."

Another challenge resulting from a new 80-foot tall structure, adjacent to an existing 40-foot facility, was the large snow load imposed on the existing roof.

"United States Cold Storage originally asked that we go inside the existing freezer building and reinforce the bar joists. This would have created loss of business for the company and countless



The expansion includes a 3.5 million-cubic-foot freezer with an automated storage and retrieval system. (Photo courtesy of UISC.)

challenges in construction," Maleczka says. "UISC presented an alternate snow load solution with a new shed roof on top of the existing structure. This allowed United States Cold Storage to stay in operation and ultimately saved them money."

For the rack anchor bolt installation, UISC needed to design and construct the concrete wearing slab with no saw cut control joints in the floor due to the automated racking system. To accomplish this, a heavily reinforced slab was utilized, though this created other challenges as none of the thousands of racking anchor bolts could hit the rebar upon installation.

"We created and developed drawings, down to the fraction of an inch, that located the rebar in the slab and overlaid the automator's anchoring plan and our plan to make sure there were no conflicts," Maleczka says. "We had tens of thousands of bolts installed, and not one conflict. We pulled off what we originally thought was impossible and we are very proud of the outcome."

Innovative Work

Maleczka notes the automation part of the project includes innovative design features such as multi-deep rack storage, which minimizes the cube required for storage.



There is a pinwheel design on both inbound and outbound conveyance, which allows for efficient pallet handling in the loading and unloading processes. (Photo courtesy of UISC.)

Dynamic pick tunnels, replenished by ASRS cranes, allow more SKUs to be picked within the system. There is a pinwheel design on both inbound and outbound conveyance, which allows for efficient pallet handling in the loading and unloading processes.

Fire protection is also a big concern in automated freezers because of the height and the design requirements of numerous levels of in-rack sprinklers per NFPA guidelines.

“No one likes in-rack sprinklers because they can get hit and then you have water in your freezer, which is a big problem,” Maleczka points out. “We sat down with the fire marshal and other local authorities and presented them an alternate equal design, which was ultimately approved. We were able to reduce the number of levels of in-rack sprinklers, which saved the client money and from an operational standpoint, was a complete homerun.”

Energy Savings

Maleczka notes numerous energy savings elements were part of the design, fulfilling United States Cold Storage’s desire to become more sustainable.

For example, variable frequency demand (VFD) is used with the evaporator fans to reduce electrical demand during non-peak times as well as reduce heat load from the motors and fans to the refrigerated space. Fan cycling is also used to turn evaporators off when not needed.

“The lighting system was 83 percent more efficient than what was allowed by the energy code, which resulted in large kilo-watt demand reduction and energy cost savings,” Maleczka says. “Overall, United States Cold Storage expects to save 30 percent on energy cost for the new space.”

UISC completed the project ahead of schedule and under budget.

The project was the first runner-up in the CEBA Built by the Best Competition for 2019. 🏆

Access GCCA’s Coronavirus Web Portal for resources, tools, news, and more.

www.gcca.org/coronavirus





The Rapid Evolution of the Grocery Industry.

The grocery industry is changing. Owners recognize they must move away from a hyper-efficient “zero waste” model in favor of a more flexible supply chain that can adapt to unpredictable circumstances. There is also the transition of purchasing power from Baby Boomers to Gen Xers who value convenience over brand loyalty. Technology is part of our lives and has entered the logistics industry as a result. Automation and software solutions are being implemented to improve efficiency and safety.

Many of Primus’ clients are moving toward a more agile and responsive supply chain to meet the demands of an e-commerce and home delivery focused consumer base. To capture the “next dollar spent,” grocery logistics teams must evolve and think more like a technology company, embracing intralogistics and the IT infrastructure needed to solve challenges quickly – both expected and unexpected.

Think about your business for a moment. Is it adaptable to current consumer demand? How vulnerable are you to unpredictable disruptions? To thoroughly and accurately answer those questions requires an experienced, outside perspective from a partner you can trust – Primus. Our company has been evolving as well, bringing together people, process, and technology to expand our capabilities and take the benefits of our design-build-automate approach to the next level. Today, our clients are gaining a competitive edge by partnering with us well before they break ground and long after construction ends to gain maximum efficiency and productivity.





Primus Builders completed a new refrigerated warehouse for United States Cold Storage in seven months. (Photo courtesy of Primus Builders, Inc.)



SUCCESS IN SEVEN

Primus designs and builds USCS warehouse despite daunting deadline.

At the beginning of 2018, United States Cold Storage (USCS) found itself with an increased demand for its warehousing and logistics services in the Dallas-Fort Worth area, which required the addition of more cold storage space quickly.

United States Cold Storage closed on the land in Denton, Texas, for a new warehouse in early February. They needed to work with a builder with the caveat that the work would be completed by September 1 – just seven months later.

The company hired Primus Builders, Inc., to design and build a 262,555-square-foot facility in Denton, Texas. The company not only had the experience in building that United States Cold Storage was looking for, they had a reputation getting things done on time.

“United States Cold Storage is a recurring client and they came to us because we’ve done

very similar buildings for them,” says Grayson Long, Project Executive for Primus Builders. “Typically this type of building takes nine to 10 months, but they knew we knew the area and the subcontractor base, so they felt we were the people who could meet their tight deadline.”

Communication Matters

For the project to finish in this timeframe, most everything had to go right and a lot of strong communication was needed.

Long notes having clear, meaningful communication from the get-go established a sense of trust and partnership that lasted through the project. This involved regular

on-site meetings and weekly calls with United States Cold Storage to keep them up to date on the progress.

“Primus’ ability to communicate the benefits of the new facility, as well as the urgency to begin work, encouraged the City of Denton to complete the permitting process quickly and keep the schedule on track,” Long says. “Primus also communicated regularly with its in-house design team to deliver thoughtful design solutions.”

Up for the Challenge

The warehouse was designed using Revit, Primus’ BIM (Building Information Modeling) software, which allowed the architects, structural engineers and mechanical engineers to load all of their designs into one master model. By using this, Long says the team was able to work together to resolve any clashes before work began in the field.

As with any project, there were some hiccups along the way, but Long and his team were able to quickly find solutions.

For example, it was discovered the site contained expansive soils so the Primus team excavated all the soil and then moisture conditioned it and filled it back in lifts to get to the building pad elevation.

“We had run into a similar issue on a job we did for them and we ultimately had three crews working on this, which was a challenge to the schedule to get that built so we could start the foundation,” Long says.

The concrete pour for the shrink compensating floors took place in extreme heat, which required ice and chilled water mixed into the cement to slow the hydration reaction and ensure the integrity of the finished product.

“Weather was another issue and just coordinating subs on a daily and weekly basis,” Long says. “We were working night shifts, around-the-clock shifts during critical phases of the job, coordinating some to work early in the morning with light towers – stuff we wouldn’t normally do.”

For instance, the engine room had multiple large compressors and the underground plumbing and electrical looked like spaghetti, with hundreds of conduits underneath.

“Typically, when you have time, they dig that to the substrate you would need and put trenches in for all this,” Long explains. “Our superintendent just took it down another two feet, put everything on the ground and put flowable grout (instead of concrete), which cost more money but saved us probably three weeks.”

Also, in a warehouse like this, the company usually wants the electrical overhead for future maintenance issues, but because of the schedule, Long knew he would have to go underground with a lot of that electrical. That way, electricians could get main circuits and feeds in place weeks before normal.

By Design

Primus’ in-house BIM/VDC Manager Allen Beveridge worked closely with the team’s architects, structural engineers and mechanical engineers to maximize the efficiency of the facility’s design process.

Long explains each discipline designed their components in Revit (Primus’ Building Information Modeling software) and uploaded them to a master model. Beveridge



The plumbing and electrical in the engine room was encased in flowable grout instead of concrete to save time. (Photo courtesy of Primus Builders, Inc.)



The loading dock at the award-winning build. (Courtesy of Primus Builders, Inc.)



The conference room in the two-story office area. (Photo courtesy of Primus Builders, Inc.)

then ran the model through Navisworks (Primus' clash detection software) to identify any interferences.

"These conflicts were resolved in the design phase before construction began, saving USCS time and money," he says. "Innovation in the field came down to good old-fashioned problem solving."

Long also credits the use of the management system Last Planner for keeping things on track. This required all subcontractors meeting weekly to plan things out and ensuring there were no schedule mistakes in a six-week look-ahead schedule.

Long notes managing multiple crews was a common occurrence and it was not out of the ordinary to have 300 to 400 people working on-site at the same time. For example, two steel erection teams worked simultaneously in two different zones from 7 a.m. to 3 p.m., while those installing the insulated panels worked from 2 a.m. to noon and three refrigeration teams worked around the clock shifts, as did a trio of racking crews.

The company's on-site safety coordinator provided daily oversight, and also provided training to Primus team members and subcontractors who needed additional guidance. Long is proud to report that the project was finished with no incidents.

Meeting the Deadline

When the first trucks came on September 1, Primus had the warehouse substantially complete and operational, just as United States Cold Storage had contracted.

They knew from the beginning that the office space would not be finished, but they had temporary trailers on-site to get everyone up and ready.

"The finished project overall is one of our better-looking buildings from a quality standpoint and a site standpoint," Long says. "They were very happy to get in when they needed."

The final project included multiple convertible rooms with temperatures ranging from -20°F to 60°F; 25,000 racked pallet positions; two dock doors and five rail dock

doors; a locker room; a two-story office; battery charging areas and maintenance area with mezzanine.

Primus also implemented numerous sustainability features to reduce water consumption and optimize energy consumption, including LED lights, low-flush toilets and other modifications.

For Primus' big effort and success, the project was a runner up in the CEBA 2019 Built by the Best competition. 🏆




THERMAL PROTECTION

FOR EVEN THE MOST *FRIGID* OF COLD STORAGE NEEDS

AWIP Offers A Better Way to Keep Cool:

- One-step installation for reduced construction costs
- Cutting edge chemical manufacturing facilities
- Tongue & groove joinery creates an impenetrable thermal envelope



Now up to 8"!

Innovative. Adaptable. Energy Efficient.

www.awipanel.com

For queries, contact sales@awipanel.com

Or call 888-970-AWIP (2947)



**ALL WEATHER
INSULATED PANELS**

COMPANY RESOURCE GUIDE

CONTROLLED ENVIRONMENT BUILDING RESOURCE GUIDE

The 2020 Controlled Environment Building Resource Guide includes companies that are members of the Controlled Environment Building Association (CEBA), a Core Partner of the Global Cold Chain Alliance (GCCA).

Air Curtain & Doors

Albany Entrematic
www.albanydoors.us

Berner Air Curtains
www.berner.com

Everidge
www.everidge.com

Jamison Door Company
www.jamisondoor.com

KPS Global
www.kpsglobal.com

LiftMaster
www.liftmaster.com

RollSeal, Inc.
www.rollseal.net

Southern Thermal Solutions Inc.
www.sthermalsolutions.com

Tracy Cold Storage Construction, Inc.
www.tracycoldstorage.com

Ammonia/Environmental Monitoring Equipment

Lisa Line Life Science Technologies Pvt., Ltd.
www.lisalineasia.com

Logix Refrigeration Controls
www.logix-controls.com

Republic Refrigeration, Inc.
www.republicrefrigeration.com

Ammonia/Chemical Supplies

Dupont
www2.dupont.com/India_Country_Si-teen_IN

Honeywell International Inc.
www.honeywell.com

Owens Corning Foamular
www.owenscorning.com

The Chemours Company
www.chemours.com

Architect

ATI Architects & Engineers
www.atiae.com

Bosz Arch, Inc.
www.boszarch.com

Ware Malcomb
www.waremalcomb.com

Audits & Inspections

Graycor Construction Company
www.graycor.com

North American Roofing
www.narroofing.com

Automation & Material Handling Equipment

AutoMak Assembly, Inc.
www.cladboyusa.com

Koldware Industries (Private) Ltd.
www.koldwareindustries.com

LTW Intralogistics, Inc.
www.LTWUSA.com

NORDOCK Inc.
www.nordockinc.com

Rite-Hite
www.ritehite.com

Steel King Industries Inc.
www.steelking.com

Stow International NV
www.stow-group.com

Swisslog
www.swisslog.com

The Raymond Corporation
www.raymondcorp.com

Translift Bendi Ltd.
www.bendi.co.uk

Construction

Apex Refrigeration & Boiler Company
www.apexrefrig.com

Arctic Insulation, Inc.
www.arcticii.com

Bosz Arch, Inc.
www.boszarch.com

Central Insulations Ltd.
www.centralltd.com

Cold Clad Ltd.
www.coldclad.com

Cold Storage Construction Services Inc.
www.coldstorageus.com

Coldroom Systems, Inc.
www.coldroomsystems.com

Consolidated Construction Company, Inc.
www.consolidated-const.com

Controlled Environment Structures Inc.
www.cesweb.com

Delta T Construction Company Inc.
www.deltatconstruction.com

Derek Engineering General Contractors, Inc.
www.derekengineering.com

Development Solutions, Inc.
www.dsi-group.com

EMCO Panel System Ltd.
www.emco.ie

ESI Construction
www.esiconstruction.com

ESI Group USA
www.esigroupusa.com

Fisher Construction Group
www.fisherfcgi.com

Graycor Construction Company
www.graycor.com

Hansen Cold Storage Construction
www.hansencold.com

Hansen-Rice, Inc.
www.hansen-rice.com

HBCL Coldstores Ltd.
www.hbclcoldstoresltd.co.uk

Heritage Hygienic Environments Ltd.
www.heritagehe.com

HIL Installations Ltd.
www.hil-installations.com

Kajima Building & Design Group, Inc.
www.kbdgroupusa.com

Koldware Industries (Private) Ltd.
www.koldwareindustries.com

LTI Contracting
www.lticontracting.com

Metl-Fab, Inc.
www.metl-fab.com

Mollenberg-Betz, Inc.
www.mollenbergbetz.com

North American Roofing
www.narroofing.com

Performance Contracting Inc.
www.pcg.com

Primus Builders, Inc.
www.primusbuilders.com

Proform Thermal Systems, Inc.
www.proformthermal.com

R.A.Sneddon Ltd.
www.rasneddon.com

RINAC India Ltd.
www.rinac.com

Ryan Companies US, Inc.
www.ryancompanies.com

Sprinkmann Sons Corporation
www.sprinkmannsonscorp.com

Stancold plc
www.stancold.co.uk

Steine Cold Storage, Inc.
www.steincoldstorage.com

Stellar
www.stellar.net
SubZero Constructors, Inc.
www.szero.com
The Fricks Company
www.www.fricksco.com
Thermal Technologies, Inc.
www.thermaltechnologies.com
Tippmann Innovation
www.ticold.com
Tracy Cold Storage Construction, Inc.
www.tracycoldstorage.com
Trinity Insulation Company
www.trinityinsulationllc.com
Xlt-Cor, Inc.

Design/Build

1Cold Ltd.
www.1cold.com
A M King
www.amkinggroup.com
Acorn Thermal Services
AIR Consulting Global Ltd.
www.airconsulting.eu.com
Aislamientos Constructivos, S.A. de C.V.
www.grupoaislacon.com.mx
Alston Construction
www.alstonco.com
Amana Contracting & Steel Buildings Company LLC
www.amanainvestments.com
American Thermal System, Inc.
www.ats-construction.com
ARCO Design/Build - BTS
www.arcodb.com
Arctica Ltd.
www.arctica.co.uk
ATI Architects & Engineers
www.www.atiae.com
B-Built
www.b-built.com
Beca Pty Ltd.
www.beca.com
Bethlehem Construction
www.bethlehemconstruction.com
Big-D Construction Corp
www.big-d.com
Bonar Engineering & Construction Company
www.bonareng.com
Bosz Arch, Inc.
www.boszarch.com
Bulton Construction
www.www.bultonconstruction.co.uk
Clarion Construction, Inc.
www.clarionconst.com
Cold Clad Ltd.
www.coldclad.com
Cold Storage Construction Services Inc.
www.coldstorageus.com
Coldbox Builders Inc.
www.coldboxbuilders.ca

ColonialWebb Contractors
www.colonialwebb.com
Consolidated Construction Company, Inc.
www.consolidated-const.com
Couch Perry & Wilkes LLP
www.cwp.com
CT Darnell Construction
www.ct-darnell.com
CT-Technologies ApS
www.ct-technologies.dk
Davis International, Inc.
Derek Engineering General Contractors, Inc.
www.derekengineering.com
Development Solutions, Inc.
www.dsi-group.com
Edgewood Electric, Inc.
www.edgewoodusa.com
ESI Construction
www.esiconstruction.com
ESI Group USA
www.esigroupusa.com
Evans General Contractors
www.evansgeneralcontractors.com
Excel Engineering, Inc.
www.www.excelengineer.com
Fisher Construction Group
www.fisherfcgi.com
FK Construction Ltd.
www.fkgroup.co.uk
Frica Construcciones S A de C V
www.frica.com.mx
Frigo Stahl SA
www.frigostahl.gr
GPL Construction (UK) Ltd.
www.gplconstruction.co.uk
Gray Construction
www.gray.com
Graycor Construction Company
www.graycor.com
Griffco Design/Build, Inc.
www.griffcodesignbuild.com
H.A. Davie Ltd.
www.hadavie.co.uk
Hansen-Rice, Inc.
www.hansen-rice.com
Impelpro SCM Solutions Pvt. Ltd.
www.impelpro.in
ISD Solutions
www.isd-solutions.co.uk
Kaiser-Martin Group
www.kaisermartingroup.com
Kajima Building & Design Group, Inc.
www.kbdgroupusa.com
KPS Global
www.kpsglobal.com
Lewis Electrical Contractors, Inc.
www.leciga.com
LTI Contracting
www.lticontracting.com

McCoy Construction LLC
www.mccoyroofing.com
McShane Construction Company
www.mcshane-construction.com
Mecalfab Ltd.
www.mecalfab.com
Mettl-Fab, Inc.
www.mettl-fab.com
Mock Plumbing & Mechanical, Inc.
www.mocksavannah.com
North American Roofing
www.narofing.com
O'Connor Construction Group
www.ocgbuild.com
Oomiak Pty Ltd.
www.oomiak.com.au
PED Consultants Ltd.
www.pedconsult.com
Perley-Halladay Associates Inc.
www.perleyhalladay.com
Primus Builders, Inc.
www.primusbuilders.com
RANINA
Refrigeracion Linca SA de CV
www.refrigeracionlinca.com
Ricker Thermline
www.rickerthermline.com
RPS Group Plc
www.rpsgroup.com
Ryan Companies US, Inc.
www.ryancompanies.com
S & S Refrigeration Company
www.ssrefrig.com
Sistemas de Refrigeracion Totales SA de CV
www.equipostrtmexico.com
Stancold plc
www.stancold.co.uk
Stanker & Galetto Inc.
www.stankergaletto.com
Stellar
www.stellar.net
SubZero Constructors, Inc.
www.szero.com
Team Group, Ltd.
www.teamgrp.com
Technocool Engineering
www.technocool.kz
The Whiting-Turner Contracting Company
www.whiting-turner.com
Thermal Technologies, Inc.
www.thermaltechnologies.com
Thermomass
www.thermomass.com
Tippmann Construction
www.tippmanngroup.com
Tippmann Engineering (QuickFreeze)
www.QuickFreeze.com
Tippmann Innovation
www.ticold.com
Tracy Cold Storage Construction, Inc.
www.tracycoldstorage.com

Trundley Design Services Ltd.
www.trundley.com

United Insulated Structures Corp.
www.unitedinsulated.com

V. Paulius & Associates
www.vpa.com

Walter Fedy
www.walterfedy.com

Williams Company
www.williamsco.com

Design/Build and Construction

Cleanbuild Solutions

Cool Tactics, LLC
www.cooltactics.com

E&G Construction & Engineering Company, Ltd.
www.engchina.com

FREEZ Construction
www.freezconstruction.com

Gray Construction
www.gray.com

ICMGAG SA de CV
www.icmproyecta.com

INFRISA MEXICO SAPI DE CV
www.infrisa.com

Keeley Construction, Inc.
www.keeley.com

MT Cold Storage Solutions Ltd.
www.mtcss.co.uk

Plump Engineering, Inc.
www.peica.com

RC&E, Inc.
www.rce-nh3.com

Rice Building Systems, Inc.
www.ricebuildingsystems.com

Doors

Albany Entrematic
www.albanydoors.us

ASI Doors - Enviro
www.asidoors.com

Bluseal Ltd.
www.bluseal.co.uk

Brucha Corp
www.brucha.com

Controlled Environment Structures Inc.
www.cesweb.com

CSI of Virginia, Inc.
www.csiinc.org

Dynaco Entrematic
www.dynacodoor.us

Frank Door Company
www.frankdoor.com

Global Insulated Doors Inc.
www.globalinsulateddoors.com

HBCL Coldstores Ltd.
www.hbclcoldstoresltd.co.uk

Holden Installations Ltd.
www.holden.ie

Jamison Door Company
www.jamisondoor.com

KPS Global
www.kpsglobal.com

LiftMaster
www.liftmaster.com

Metaflex Doors India Pvt. Ltd.
www.metaflex.in

Midwest Materials Company
www.midwestmaterials.com

R.A.Sneddon Ltd.
www.rasneddon.com

R-cold, Inc.
www.r-cold.com

Rite-Hite
www.ritehite.com

RollSeal, Inc.
www.rollseal.net

Rytec High Performance Doors
www.rytecdors.com

Senneca Holdings
www.senneca.com

Thermal Construction Specialists
www.tscold.com

Tracy Cold Storage Construction, Inc.
www.tracycoldstorage.com

Weiland Doors
www.weilanddoors.com

Energy

GridBeyond
www.girdbeyond.com

Energy Management & Monitoring

ACME Tele Power Ltd.
www.acmetelepower.com

Apex Refrigeration & Boiler Company
www.apexrefrig.com

Dalkia Energy Solutions, LLC
www.groomenergy.com

Denovo
www.Netzeroalliance.com

Honeywell International Inc.
www.honeywell.com

Logix Refrigeration Controls
www.logix-controls.com

ndustrial.io
www.ndustrial.io

North American Roofing
www.naroofting.com

PowerSecure
www.powersecure.com

Fire & Smoke Protection Systems

Ahern Fire Protection a division of J. F. Ahern Company
www.ahernfire.com

Johnson Controls
www.tyco-fire.com

Victaulic
www.victaulic.com

Viking Group, Inc.
www.vikinggroupinc.com

Wagner Group GmbH
www.wagner.eu

Wiginton Fire Systems
www.wiginton.net

Flexible Walls

LTI Contracting
www.lticontracting.com

Rite-Hite
www.ritehite.com

Flooring

Metzger/McGuire
www.metzgermcguire.com

O'Connor Construction Group
www.ocgbuild.com

Owens Corning Foamular
www.owenscorning.com

Stow International NV
www.stow-group.com

The Fricks Company
www.fricksco.com

Thermal Construction Specialists
www.tscold.com

Twintec USA
www.twintecusa.com

Williams Company
www.williamsco.com

Twintec Industrial Flooring
www.twintec.co.uk

Generators/Engine Generators

Edgewood Electric, Inc.
www.edgewoodusa.com

Insulated Materials

APC Polycoat
www.polycoatusa.com

CSI of Virginia, Inc.
www.csiinc.org

Dow Building Solutions
www.dowbuildingsolutions.com

Dow Building Solutions
www.styrofoam.co.uk

Dupont
www2.dupont.com/India_Country_Si-teen_IN

Falk Panel
www.falkpanel.com

Fastener Systems, Inc.
www.fastenersystems.com

Foam Supplies Inc.
www.foamsupplies.com

Holden Installations Ltd.
www.holden.ie

Honeywell International Inc
www.honeywell.com

ICP Adhesives & Sealants, Inc.
www.icpadhesives.com

Industrial Cork Co, Inc.
www.corco.org

Jindal Mectec Pvt. Ltd.
www.jindalmectec.com

Johns Manville
www.jm.com

LTI Contracting
www.lticontracting.com

Metl-Fab, Inc.
www.metl-fab.com

Architecture | Engineering | Construction

Feasibility Studies | Facility Master Planning | Facility Sizing and Layout



Maximizing Efficiency in Food & Beverage Facilities Since 1989



Boston | Minneapolis | Los Angeles

888.328.2962 | info@cmcdesign-build.com | cmcdesign-build.com

Owens Corning Foamular
www.owenscorning.com

Premseal
www.premseal.co.uk

RHH Foam Systems Inc.
www.rhhfoamsystems.com

Shadco Column Bearing Blocks
www.shadco.com

Insulated Panels

All Weather Insulated Panels
www.awipanel.com

Alliance Industrial Refrigeration Services, Inc.
www.therefrigerationalliance.com

Anis Ahmed & Brothers
www.aabros.com.pk

Controlled Environment Structures Inc.
www.cesweb.com

CSI of Virginia, Inc.
www.csiinc.org

EMCO Panel System Ltd.
www.emco.ie

Eurobond Laminates Ltd.
www.eurobond.co.uk

Everidge
www.everidge.com

Falk Panel
www.falkpanel.com

Green Span Profiles
www.greenspanprofiles.com

Hemsec Panel Technologies
www.hemsec.com

Holden Installations Ltd.
www.holden.ie

Honeywell International Inc.
www.honeywell.com

Isocab by Kingspan
www.isocab.com

ISOPAN SPA
www.isopan.com

IXL Company, Ltd.
www.ixl.co.th

Johns Manville
www.jm.com

Kingspan Insulated Panels
www.kingspanpanels.com

Kingspan Ltd.
www.kingspan.com

Koldware Industries (Private) Ltd.
www.koldwareindustries.com

KPS Global
www.kpsglobal.com

LTI Contracting
www.lticontracting.com

Max Faith Engineers
www.maxfaithengineers.in

Metl-Fab, Inc.
www.metl-fab.com

Metl-Span
www.metlspan.com

Midwest Materials Company
www.midwestmaterials.com

Perley-Halladay Associates Inc.
www.perleyhalladay.com

Primus Builders, Inc.
www.primusbuilders.com

R.A. Sneddon Ltd.
www.rasneddon.com

R-cold, Inc.
www.r-cold.com

RINAC India Ltd.
www.rinac.com

S & S Refrigeration Company
www.ssrefrig.com

Senneca Holdings
www.senneca.com

Southern Thermal Solutions Inc.
www.sthermalsolutions.com

Steine Cold Storage, Inc.
www.steinecoldstorage.com

Thermal Construction Specialists
www.tscold.com

Tracy Cold Storage Construction, Inc.
www.tracycoldstorage.com

TrueCore
www.truecorepanels.com

Zeppelin Mobile Systems India Ltd.
www.zeppelinindia.com

Lighting

Dalkia Energy Solutions, LLC
www.groomenergy.com

Edgewood Electric, Inc.
www.edgewoodusa.com

Holden Installations Ltd.
www.holden.ie

KPS Global
www.kpsglobal.com

PowerSecure
www.powersecure.com

Maintenance/Repair

Ahern Fire Protection a division of J. F. Ahern Company
www.ahernfire.com

ALTA Refrigeration, Inc.
www.cold4u.com

Anis Ahmed & Brothers
www.aabros.com.pk

Apex Refrigeration & Boiler Company
www.apexrefrig.com

Carnot Refrigeration Inc.
www.carnotrefrigeration.com

Carolina Industrial Refrigeration Service, Inc.
www.cirsnc.com

Clarion Construction, Inc.
www.clarionconst.com

Cold Clad Ltd.
www.coldclad.com

Consolidated Construction Company, Inc.
www.consolidated-const.com

Griffco Design/Build, Inc.
www.griffcodesignbuild.com

H.A. Davie Ltd.
www.hadavie.co.uk

Hansen-Rice, Inc.
www.hansen-rice.com

HIL Installations Ltd.
www.hil-installations.com

Holden Installations Ltd.
www.holden.ie

KPS Global
www.kpsglobal.com

Metzger/McGuire
www.metzgermcguire.com

North American Roofing
www.narofing.com

O'Connor Construction Group
www.ocgbuild.com

Proform Thermal Systems, Inc.
www.proformthermal.com

Refrigeracion Linca SA de CV
www.refrigeracionlinca.com

Republic Refrigeration, Inc.
www.republicrefrigeration.com

Roadware Inc.
www.roadware.us

Stancold plc
www.stancold.co.uk

Stellar
www.stellar.net

Tracy Cold Storage Construction, Inc.
www.tracycoldstorage.com

Other Services

Albany Entrematic
www.albanydoors.us

Alliance Industrial Refrigeration Services, Inc.
www.therefrigerationalliance.com

Impelpro SCM Solutions Pvt. Ltd.
www.impelpro.in

Laudy B.V. Project Management & Consultancy
www.linkedin.com/company/laudy

M/s SVARN TELECOM Ltd.
www.svarn.com

Quest/Therma-stor
www.thermastor.com

Vapor Armour
www.vaporarmour.com

Racking

CT Darnell Construction
www.ct-darnell.com

KPS Global
www.kpsglobal.com

Steel King Industries Inc.
www.steelking.com

Storax Racking Systems
www.storaxsystems.com

Stow International NV
www.stow-group.com

Real Estate

Cold Summit Development
www.coldsummit.com

Kajima Building & Design Group, Inc.
www.kbdgroupusa.com

Ryan Companies US, Inc.
www.ryancompanies.com

Stanker & Galetto Inc.
www.stankergaletto.com

Refrigeration Engineering

Alliance Industrial Refrigeration Services, Inc.
www.therefrigerationalliance.com

Bonar Engineering & Construction Company
www.bonareng.com

Carnot Refrigeration Inc.
www.carnotrefrigeration.com

Carolina Industrial Refrigeration Service, Inc.
www.cirsnc.com

Dalkia Energy Solutions, LLC
www.groomenergy.com

DualTemp-Clauger
www.dualtempcompanies.com

Metro Cooling Corp
www.metcc.com

NXTCOLD LLC
www.nxtcold.com

Owens Corning Foamular
www.owenscorning.com

Primus Builders, Inc.
www.primusbuilders.com

Republic Refrigeration, Inc.
www.republicrefrigeration.com

Thermal Technologies, Inc.
www.thermaltechnologies.com

Burch Corporation
www.burchcorp.com

JAX Refrigeration
www.jaxrefrigeration.com

S & S Refrigeration Company
www.ssrefrig.com

Termosoluciones, S.A.
www.termosoluciones.com

Zero Zone, Inc.
www.zero-zone.com

Refrigeration Machinery

Aislamientos Constructivos, S.A. de C.V.
www.grupoaislacon.com.mx

ALTA Refrigeration, Inc.
www.cold4u.com

Anis Ahmed & Brothers
www.aabros.com.pk

ASAP Consulting Group, SAC
www.asap-peru.com

Baltimore Aircoil Company
www.baltimoreaircoil.com

BITZER U.S., Inc.
www.bitzerus.com

Carnot Refrigeration Inc.
www.carnotrefrigeration.com

Carolina Industrial Refrigeration Service, Inc.
www.cirsnc.com

Colmac Coil Manufacturing Inc.
www.colmaccoil.com

DualTemp-Clauger
www.dualtempcompanies.com

Evapco Inc.
www.evapco.com

HB Products A/S
www.hbproducts.dk

Heatcraft Refrigeration Products Div.
www.heatcraftprd.com

Hill Phoenix
www.hillphoenix.com

Logix Refrigeration Controls
www.logix-controls.com

Metro Cooling Corp
www.metcc.com

Mollenberg-Betz, Inc.
www.mollenbergbetz.com

NXTCOLD LLC
www.nxtcold.com

Quest/Therma-stor
www.thermastor.com

Republic Refrigeration, Inc.
www.republicrefrigeration.com

RINAC India Ltd.
www.rinac.com

S & S Refrigeration Company
www.ssrefrig.com

Sistemas de Refrigeracion Totales SA de CV
www.equiposrtmexico.com

Tippmann Innovation
www.ticold.com

Roofing

All Weather Insulated Panels
www.awipanel.com

Encore Roofing
www.ENCOREROOFING.COM

GAF
www.gaf.com

Green Span Profiles
www.greenspanprofiles.com

Group4 Reps

LTI Contracting
www.lticontracting.com

North American Roofing
www.naroofting.com

O'Connor Construction Group
www.ocgbuild.com

Owens Corning Foamular
www.owenscorning.com

Royalty Roofing
www.royaltyroofing.com

Steine Cold Storage, Inc.
www.steinecoldstorage.com

Sutter Roofing Co of Florida
www.sutterroofing.com

Thermal Construction Specialists
www.tscold.com

Safety Products

A-Safe, Inc.
www.asafe.comen-us

Solar/ Alternative Energy Solutions

ndustrial.io
www.ndustrial.io

North American Roofing
www.naroofting.com

Stanker & Galetto Inc.
www.stankergaletto.com

Valves/Refrigeration

BITZER U.S., Inc.
www.bitzerus.com

DualTemp-Clauger
www.dualtempcompanies.com

Evapco Inc.
www.evapco.com

Mollenberg-Betz, Inc.
www.mollenbergbetz.com

Republic Refrigeration, Inc.
www.republicrefrigeration.com

Victaulic
www.victaulic.com

WMS and TMS

Bayer Material Science Pvt. Ltd.
www.bay-systems.com

HighJump
www.highjump.com

Lisa Line Life Science Technologies Pvt., Ltd.
www.lisalinea.com

ndustrial.io
www.ndustrial.io

Your Deep Lane Storage Specialists With the Most Freezer Installations Semi-Automated OR Fully Automated

Semi-Automated Pallet Runner

By combining Semi-Automated Pallet Runner Carts with either conventional Forklifts or AGV's, maximize density in your freezer beyond what is possible with Drive-In or Push Back Systems. Reduce your rack, product and truck damage and increase your productivity with proven technology.

Fully Automated Autosatmover

If you require maximum storage density, higher throughput, and increased redundancy over traditional Crane Systems this can be the right solution for your company. A Fully Automated Solution controlled by Automha Software, that doesn't require batteries or hydraulics, has become the most popular type of Deep Lane, Fully Automated option in Freezers on the planet.

AUTOMHA





Contact Us

800-532-3667 | www.jamisondoor.com

4816 Zane A Miller Drive, | Waynesboro, PA, 17268



'OPENING THE DOORS' TO NEW OPPORTUNITIES

Marking our continued expansion is a new 50,000 square-foot BMP high-speed fabric and rollup facility in PA set to forge into additional product lines. We are excited to not only be a one-stop shop for the cold storage industry, but to also move into the general industrial market!

what we do?

- DynamicRoll®
- DynamicRoll® Stainless
- DynamicRoll® Food PE
- DynamicRoll® Clean Room
- DynamicRoll® Retail
- DynamicRoll® Frigo 2
- Pack
- Mega Pack
- ThermicRoll Standard Headroom
- ThermicRoll Low / Oval Headroom



FLOOR FACTS



1 FOR OPERATIONS

Easy cleaning, light reflecting, reduced axle and transmission repairs, better pick rates, and faster driving

2 FOR HUMAN RESOURCES

Lowered operator fatigue, increased morale, safer driving and higher retention rate

3 FOR THE BOARD OF DIRECTORS

Longer lasting, lowered equipment cost, higher throughput, lowest total cost of ownership

Reduce unnecessary distractions, increase profits, and strengthen your reputation as a world-class distributor.



INDUSTRIAL FLOOR CONTRACTOR

KALMAN
FLOOR COMPANY, INC.

Building Value For You
WORLDWIDE SERVICE

HOME OFFICE

15710 W. COLFAX AVENUE, SUITE 202
GOLDEN, COLORADO 80401

(303) 674-2290

KalmanFloor.com

info@kalmanfloor.com

BEST INVESTMENT

- Easy-to-clean
- Self-polishing
- Abrasion-resistant
- Non-dusting
- Longest warranty in the industry

KALMAN FLOORS HAVE UP TO 90% FEWER JOINTS



Ask us how we
can help you get
LEED points



ESTABLISHED 1916