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ESI GROUP USA

25 YEARS OF EXCELLENCE

DESIGN-BUILD SOLUTIONS

ESI SPECIALIZES IN FOOD PROCESSING AND DISTRIBUTION CENTER DESIGN & CONSTRUCTION.

The Benefits of Building with IMPs

Find out how insulated metal panels provide a number of advantages.

When it comes to building a food processing or distribution facility, there are many factors to keep in mind—is it sustainable, efficient and clean? Does it meet government regulations? Is there room for growth? The list of questions goes on and on.

That's why it's imperative to select building materials that provide a number of advantages, both today and into the future.

"Insulated panels are a versatile product that can be used for both walls and ceilings in food processing and distribution warehouses, and [offer] many advantages over other construction materials such as concrete tilt walls, concrete precast walls, masonry or studs/drywall," says Patrick Dohogne, vice president of operations for Delta-T Construction Co., a Menomonee Falls, Wis.-based cold storage construction company. "When the proper equipment is used, insulated panels can be quickly and easily installed and help speed up the processes of 'drying in' a building and installing interior walls and ceilings in a facility."

Insulated metal panels (IMPs) provide a number of advantages:

- Properly caulked and vapor-sealed panels are highly resistant to water infiltration and water vapor permeation, thus retaining their insulating value for long periods of time.
- Foam-in-place (FIP) and expanded polystyrene (EPS) panels are relatively lightweight construction materials, yet are strong enough to be used as cladding on building exterior walls in high wind zones.
- IMPs are typically 42-45 inches wide, and FIP and EPS panels can be manufactured in lengths up to 60 foot long. Thicker panels (4- to 6-inch thick) can typically be used as freestanding interior partition walls that are 30-35 feet high without requiring additional framing or supports.
- IMP walls and ceilings are easier to modify than concrete or masonry walls if new wall openings are required for doors or equipment or if walls need to be removed during building remodeling or building expansion projects.
- IMPs are also extremely energy efficient. The metal panel skins prevent the blowing agents entrained in FIP and EPS insulation from diffusing out of the insulation, so the panels retain

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their R-values for long periods of time, says Dohogne. FIP panels can have R-values as high as 7.5-8.0 per inch.

Given their versatility and relatively low weight, IMPs are often used on projects with limited construction access.

"For example, IMPs are often used on high-rise automatic storage and retrieval system warehouses that can be over 100 feet tall," he adds. "Special equipment such as cranes, high-reach boom lifts, vacuum panel setting devices, etc. may be required to install IMPs on tall buildings at congested job sites."

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Furthermore, IMP walls over 60 feet in height that are installed in areas with limited space/accessibility may have to be "stacked" two or three panels high to complete the wall.

"It's critical to make sure stack joints are properly installed in order to maintain the water and vapor-tight integrity of IMPs," says Dohogne. "Improperly installed stack joints can be very difficult and expensive to correct leaks."

Mineral wool core insulated fire-rated panels have been used in the United States for over 15 years, and can be a cost-effective and practical replacement for fire walls constructed from conventional methods and materials. However, they are relatively heavy and are susceptible to damage, so it is critical to make sure they are properly handled during installation.

That's why IMPs provide superior energy efficient solutions, simplify installation and maintenance and offer cutting-edge design opportunities. **ESI**

How ESI Group Builds for Today's—and Tomorrow's—Trends

LEED Gold food distribution center

Since its inception 25 years ago, ESI Group USA has maintained an experienced staff of over 50 professionals who helped complete nearly 300 projects for food industry leaders like Cargill, Kerry Ingredients, Land O'Frost, McKee Foods, Nestlé USA, Performance Food Group, Patrick Cudahy, Sargento, Sysco, The Bama Cos., US Foods, United Natural Foods (UNFI) and WinCo Foods, among others.

Case in point: ESI Group does more than just provide design-build services to the food process, beverage, grocery, foodservice and public refrigerated warehouse industries.

Whether developing a Greenfield facility, renovating an existing building or planning to execute a facility expansion, this Hartland, Wis.-based design-build architectural, engineering and construction management firm does it all.

"We take pride in our history, our work and our long-term client relationships," says Brad Barke, president. "Our success is driven by avoiding disputes and providing value to help businesses thrive. By managing each project from concept to completion and maintaining a distinguished safety record, we've achieved an 85% rate of repeat clients."

Go to **www.esigroupusa.com** and check out ESI Group's Spring 2016 newsletter titled "ESI Celebrates 25 Years of Design-Build Services" to learn more about the history of the award-winning design-build firm and why it's positioned to build from the ground up and design for today's—and tomorrow's—trends. **ESI**