



+ Venge Vineyards in California uses AWIP's customized wall panels and HR3 roof panels for a distressed wood appeal.

## STYLE AND SUBSTANCE

All Weather Insulated Panels offers state-of-the-art insulated metal panels that are energy efficient and attractive.

By Mike Thomas

**Metal: It's cold and it's hard.** But it's versatile, too, and used to make energy-efficient, environmentally friendly insulated metal panels (IMPs) that are becoming more and more popular with commercial builders in North America—and not only for industrial warehouses or cold storage. European builders in new commercial construction projects incorporate IMPs about 50% of the time. While the U.S. lagged for years, new commercial projects are now using IMPs nearly 10% of the time, and experts say that number appears to be climbing.

Over the last decade, **All Weather Insulated Panels (AWIP)** has emerged as a top manufacturer of IMPs, with an annual two-plant production capacity of around 30 million square feet to meet the needs of its burgeoning customer base. Those customers, including retail centers and more than 100 wineries, increasingly want a product that's aesthetically pleasing—a product that offers better insulation and comes with a modish and inviting facade. AWIP is giving them precisely that.

"We've continued to develop new wall and roof products over the years, including wall surfaces like AdobeTexture [which has a knockdown stucco appearance] and our wood grain line," says AWIP president and founder **William Lowery**. "We go out of our way to make a metal building look like something other than metal."

### MORE USES AND MORE STYLES

For many years, IMPs such as those AWIP makes—closed-cell foam composite encased by two pieces of galvanized steel—were chiefly used to construct facilities that stored perishable foods at temperatures well below freezing. And

PHOTOS: RYLAND HORMEL







✚ The wall panels are AWIP's 5-inch DM40 panels with 22-gauge steel exterior, to which "board and batten" wood siding was applied using screws into the 22-gauge steel. They have an R value of 41.

### AWIP By the Numbers

**R-50** The foam-insulated panels can reach above R-50

**4-6** The panels can sway several inches during seismic activity

**30%** Steel facings have a total recycled content of up to 30%

they still widely serve that purpose. But in light of today's rigorous energy and environmental standards for commercial buildings (including the California Public Utilities Commission's Zero Net Energy goal for 2020), IMPs are uniquely suitable for a variety of other applications.

In fact, AWIP believes its product rests in the "unique middle," which is to say it provides savings in long-term energy savings, offers lower construction costs, and comes with high visual appeal that provides more architectural flexibility than ever before.

"We keep putting more and more products out there, and a lot of times it's in response to what the customers are asking for," says AWIP National

Marketing Director **Christopher Marchetti**. "As an example, there has been high demand for a 'ribbed' or corrugated look, which is the next product we'll be putting out.

We can do the 'modern, sleek' look, but there's a growing demand for non-metal appearance. It's also easy to add to our panels to provide the desired appearance to meet the design requirements. We love to work with projects that make us find new solutions and textures for our customers."

"We've worked with AWIP on many projects over the past decade," says **Vince Free**, project manager for **SubZero Constructors**, one of the largest IMP contractors in North America. "Not

only are they committed to superior customer service, we're also seeing more high-quality products from them. That gives us and our clients greater design versatility, which really helps."

#### EXCITING PROJECTS

Of course, extraordinary products require extraordinary people, and Lowery is rightly proud of the highly trained team that meticulously oversees AWIP's panel-crafting processes. "Suffice it to say that continuous line IMP production requires some unique skills that are not necessarily common to other industries," he says. "Our trained operators are tasked with maintaining exceptional best practices in quality control. We really stress limiting scrap levels so we can maximize our resources. That means our foam composite formulas have to be spot-on, and that requires a deep understanding of the chemistry in our manufacturing process. It's not that difficult to make a lot of panels, but it is a challenge to maintain the high quality our customers expect in every panel."

With AWIP and its ever-expanding line of panels leading the way, Lowery envisions a future in which IMPs are the construction standard for every commercial project in North America. Because when it comes to securing a building's thermal envelope, he says, referring to an all-in-one air, water and vapor barrier. "Nothing is better."

And, thanks to AWIP's stylish innovations, better looking. **gb&d**

PHOTOS: RYLAND HORNEL

"We can do the modern, sleek look, but there's a growing demand for non-metal appearance."

Christopher Marchetti, AWIP National Marketing Director



✚ A look under the HR3 roof panels and the facade of the insulated wall panels



# Perfectly Perforated

Highly recyclable perforated panels keep costs low and satisfaction high

by Emily Torem

Good conservation starts with good design, and with this recent addition to their green design cannon, **The Ventura County Medical Center** of Ventura, California, the team at **Accurate Perforating** continues to follow this ethos to a tee.

Accurate Perforating, a Chicago-based company, has forged the route for dynamic perforated metal designs for the past 70 years in projects all over North America, such as in New York's **JFK Airport** and at the **New World Symphony**. The 364 perforated metal panels that frame the custom designed medical center are composed of aluminum, a highly recyclable metal, that contains

up to 85% recycled content—and is 100% recyclable, to boot. But it's not just that Accurate Perforating's metal sheets contain high amounts of recycled metals, or that they can easily scrap unwanted projects to become the

**+** The undulating design on the perforated panels scatter glare, provide pleasant ambient light, and cut the heat tremendously, without darkening the interior.

foundations for new ones—it's how the perforation functions to help guide sound, light, heat, and airflow to boost building efficiency on a variety of levels.

The east-facing medical center is in the target zone

for massive amounts of glare and accumulated heat, especially in the early morning hours. "It would have made the whole area inhospitable," says **Damon Henrikson**, director of marketing at Accurate Perforating. But the undulating design on the perforated panels both scatter glare, making it a pleasant speckle of ambient light, and cut the heat tremendously, without darkening the interior the way an opaque or solid shade might. At night, the light will peek through the wave pattern of perforations creating a beautiful "firefly" effect of the night sky being punctuated with pinpricks of warm light. "We chose this 2-D pattern that really looks 3-D," says Senior Project Architect **Paul Morgan**. "The panels are versatile because the pattern was designed to be self-contained within each panel, so the panels did not need to be installed in any particular order and the pattern flows seamlessly through all of them without anomalies or awkward terminations. They even turn 90 degrees without breaking the pattern," Morgan says. Beyond elevating the experience of guests and patients, providing a buffer to direct sunlight while still maintaining excellent levels of natural daylight, it will help the Ventura County Medical Center cut energy costs in the form of cooling and providing artificial lights.

With its ability to let in natural light yet provide a visual barrier, perforated metal sheets play versatile roles. Consider the **Park Place parking garage** in Missoula, Montana, a project using perforated metal in an earthy array of colors, ranging from deep orange-red to rich mahogany brown; it won an Architectural Achievement Award for being so visually captivating. "You can't see the cars from the outside," Henrikson says. "Parking garages use them for screening so they're not a blight on the neighborhood." Beautifying a parking garage is a great application, but better yet, these sheets may provide comfort for patients facing medical challenges. "The panels were designed to

## Accurate Perforating By the Numbers

**6,552** Weight of the perforated panels

**1,185,184** Number of holes in all of the perforated panels

**70+** Years manufacturing perforated metals

**364** Panels at the Ventura County Medical Center

**3** Coats of PVDF anti-corroding finish on each panel



**"Perforated metal can be adjusted to help you achieve whatever goals you have."**

Damon Henrikson, director of marketing

PHOTOS: COURTESY OF ACCURATE PERFORATING





provide privacy to patient rooms,” Morgan says. “To prevent the public from seeing into the room from outside while allowing for enough natural light to enter the patient room.”

Privacy extends from visual to sonic, as the panels assist a process called sound attenuation, which is the combined effect of sound scattering and absorption. “The configuration helps tune the room to give you the right amount of sound. It’s not an echo chamber, but it’s not a completely dead space.” This, like almost all elements of the perforated panels, is highly customizable. “Perforated metal can be adjusted to help you achieve whatever goals you have,” Henrikson says. You can adjust the size and shape of the holes, the patterns that appear on them, their configuration, and the spacing to fine-tune light, sound, and ventilation, he says. The panels’ materials can also vary depending on tastes and aesthetics, and include projects in bronze, weathered steel, and copper. The holes themselves can make up abstract patterns, like on the medical center, or display a brand logo or composite picture when viewed from afar.

Accurate Perforating prizes durability in the future as well as the guest experience in the present, which is why it chose low-VOC, high-durability finishes for all its projects. The panels on the Ventura County Medical Center are triple coated in

#### PROJECT TEAM

##### GENERAL MANAGER

Kathy Hoosier,  
Sashco, Inc.

##### PROJECT MANAGER

Martin Svoboda,  
Clark Construction  
Group

##### PROJECT MANAGER

Paul Morgan, HOK

##### HEALTHCARE SUSTAINABLE DESIGN LEADER

Mara Baum, HOK

##### SDC

Scott Ciley,  
Architectural Solutions

##### PROJECT MANAGER

Chris Berthold,  
Accurate Perforating

Polyvinylidene Fluoride, a non-reactive polymer that is warranted to last two decades. Aluminum coated in PVDF is extremely resistant to corrosion, even in the face of salty coastal air, lowering maintenance and repair costs to practically nil, as the panels protect the structural materials behind them.

Lowering HVAC costs, cutting down on the need for artificial lighting during the day, and providing highly recyclable materials with supported longevity all help the medical center become an excellent candidate for LEED and SMART certification. It’s an even stronger candidate when you consider Accurate Perforating reuses its own stores of scrap metal, surpassing LEED’s “20% or more materials from recycled content” with flying colors, elects to use low-VOC finishes, and reduces the overall energy requirements of the building in a multitude of ways. Accurate Perforating’s portfolio, including the medical center, snap up LEED points with ease.

The California medical center is expected to receive a LEED for Healthcare Silver level certification when the project is complete. The hospital design includes green roofs, a healing and viewing garden, skylights, exterior canopies and screens, and a pediatrics play area. “The panels are one of my favorite things about this project because they came out so well,” Morgan says. “I enjoy looking at them every time I walk in the building.” **gb&d**

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