

Municipal Liquor Store Warms up to Energy Savings, Fire Code Compliance

It may be below zero on an icy January day in Minnesota, but the Cottonwood Municipal Bar & Liquor Store feels warm and toasty with or without a good stiff drink.

That's because the property's 1600-square-foot addition was built using Structural Insulated Panels (SIPs) provided by local manufacturer Extreme Panel. And while the energy efficiency of using SIPs means patrons are protected from Minnesota's icy winter cold, covering the bar's inside walls with Blazeguard® fire-rated sheathing means no one needs to worry about the other extreme - fire - either.

SIPs are factory-constructed wall and ceiling panels formed by laminating a foam core between two sheets of oriented strand board (OSB). The resultant "all-in-one" wall panel features an OSB outer shell, expanded polystyrene foam (EPS) insulation in the middle and an inner panel of OSB.

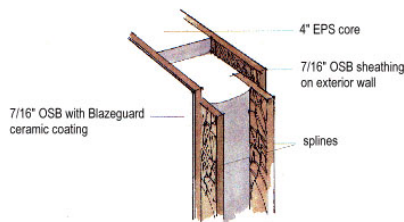


Figure 2: Cross-section of Structural Insulated Panel (SIP).

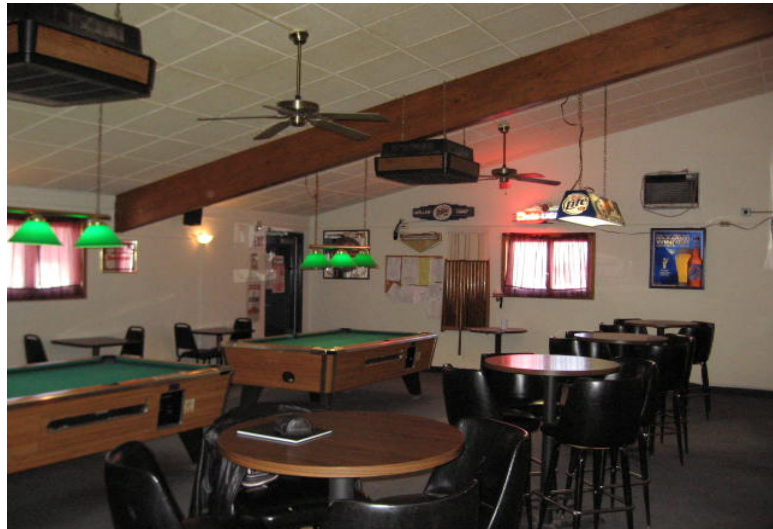


Figure 1: The Cottonwood Bar & Grill addition features Blazeguard on its interior SIP wall surface.

Since SIPs are designed and constructed in the factory and shipped pre-assembled to job sites, contractors and builders are spared the time and expense of estimating and ordering materials as well as the time and expense of constructing traditional 2' x 4' stud walls and blowing or placing insulation.

In Cottonwood, crews were spared even more time and trouble, since Extreme Panel had the inside face of its panels coated with Blazeguard®, a factory-applied fire retardant coating with a Class A flame spread and 20-minute thermal barrier, meeting or exceeding local construction codes. Construction crews simply set and glued panels and caulked panel seams, constructing a complete 16,000 square foot addition.

That addition not only went up fast, it has added next to nothing to energy costs over the past ten years.

Greg Isaackson, clerk-administrator of the City of Cottonwood, represented the city, which owns the liquor store and bar, in its construction efforts. "We were interested in the energy savings and energy efficiency of SIPs," Isaackson notes.



Figure 3: Blazeguard's cementitious coating offers a Class A flame spread rating, 20-minute thermal barrier and meets all relevant fire codes.

Though Isaackson has not done an exhaustive “before” and “after” energy cost comparison, he says the bar’s 1600 additional square feet has pretty much been a decade-long free ride.

“It was a new 40’ x 40’ addition,” Isaackson comments. “But the change in energy costs has been very minimal or hardly noticeable.”

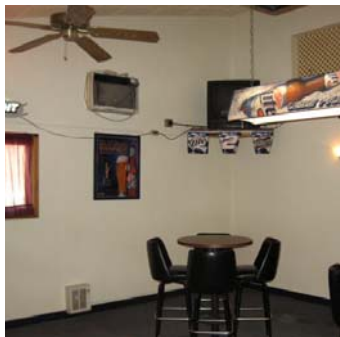


Figure 4: A small baseboard heater and window air conditioner provide heating and cooling for 1600 sq.ft.

Steve Doom, vice president of Doom & Cuypers Construction in Marshall, Minn., was general contractor on the Cottonwood Liquor Store job. Doom was impressed with the ease of use and efficiency of SIPs.

“Extreme Panel supplied all the materials,” Doom said. “We just caulked the seams and fastened them. We put in the foundation and from there on the structure was taken care of. You don’t have to do all the figuring as to what materials you need. They do that all for you. The building went up in a hurry.”



Figure 5: Interior walls can be painted and the seams covered with batters.

Terry Dieken, president & CEO of Extreme Panel and Vice President of the Structural Insulated Panel Association (SIPA), says SIPs are becoming more common in commercial, institution and industrial uses.

Why Build with SIPs?

Save up to 60% in energy costs
Superior Structural Strength
Reduced Labor Costs
Environmentally Responsible
Fast Construction
Noise Remediation

Blazeguard-coated panels, Dieken adds, offer the fastest and most efficient way to meet fire codes on commercial structures, an important consideration when any construction delay can be costly.

“In commercial construction, once you have the permit, you need to build,” Dieken says. “Time is money.”

With Blazeguard, builders have fire code compliance built into the panel, eliminating the time and expense of hanging gypsum wall board, as well as avoiding inspection delays.

An additional benefit is that Blazeguard on an interior SIP wall offers impact resistance gypsum cannot. In a bar, that means marks left by chairs or pool cues are easy to clean and paint over. In a factory or warehouse, walls are safer from forklifts, tools, etc.

Dieken sees increased institutional, commercial and industrial use of SIPs in factories, hospitals, schools, car washes, agricultural buildings, jails, churches, manufacturing facilities and temporary housing or office buildings.

“Speed of construction and energy savings,” Dieken notes, “mean SIPs are becoming an increasingly popular way to build.”

Blazeguard on SIPs:

- Class A Flame Spread
- 20-minute Thermal Barrier
- No gypsum needed
- Factory applied; pre-approved fire rating
- Impact resistant
- Paintable interior surface
- No construction delays
- Price included in SIP quote; no hidden costs