Structural Insulated Panel (SIP)

Galvanized Steel Clad R25 Insulating Core
Outdoor Venture Corporation is the manufacturer of the patented iPanel™ insulated panel (SIP), the revolutionary building material designed for the 21st Century.

iPanel™ is a galvanized steel skin, polyurethane foam core, load-bearing SIP that is used to construct walls, roofs and floors. iPanel™ enables buildings to be built stronger, lighter, and more quickly than with traditional building materials.

The iPanel™ Solution:

- Is based on tested and proven product and technology
- Supports hurricane-force building designs
- Effects major energy cost savings
- Ensures substantial reduction in construction time and cost
- Provides long lifespan and low cost maintenance
- Features high-speed mass production
- Is resistant to mold, termite, fire and water damage
- Lowers insurance costs
Product – Key Features

- Environmentally friendly
- Quick, low-cost assembly
- Best industry strength-to-weight ratio
- Wind resistant to category 5 hurricane
- Certified R-25 insulating value
- Mold, mildew, and rot proof
- Termite, insect, and pest proof
- Near zero maintenance
- Virtually soundproof
- Waterproof and fire resistant
Combine “I-Beam” geometry with a stress-skin manufacturing process to produce the iPanel™ Structural Insulated Panel (Steel SIP).

.019” (0.5 mm) Metal skin with deep pattern embossed polyester coated surface.

Three strategically placed reinforcement strips for superior strength at attachments.

Deep (2½” x 4”) integrally roll-formed channel. Hidden roof and foundation connections, and alternately wiring chases and point-load support members.
Conserves Energy: The iPanel™ SIP is among the most energy efficient Construction components available, with integral R25 insulation, plus a full thermal break. An iPanel™ building saves 40% or more on heating/cooling costs and the associated precious energy and scarce fossil fuels.

Preserves the Environment: Reduced fuel consumption means fewer greenhouse gases. iPanel™ uses no increasingly scarce lumber from shrinking forests. iPanel™ contains no CFCs or formaldehyde, which could harm the atmosphere of your home or office and the planet. iPanel™ also releases no compounds or allergens associated with “sick” buildings.

Builder and Owner Savings: iPanel™ buildings can be eligible for a broad variety of energy conservation savings, including incentives, rebates, tax credits and deductions, from DOE Energy Star and LEED programs, to state and regional programs such as CA Green Building Initiative and NESEA, to European carbon credits, and additional incentives likely coming to the U.S. in the upcoming energy bill, to name a few.
## Value Comparison

<table>
<thead>
<tr>
<th>Attributes</th>
<th>ipanel™</th>
<th>Wood Frame</th>
<th>Wood/Foam Panels</th>
<th>Metal</th>
<th>Concrete Block</th>
<th>Concrete Tilt-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Supporting</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Strength/Weight Ratio</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Fast Erection (Fewer Parts)</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Water/Rot/Mold Resistance</td>
<td>High</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Termite Resistance</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Fast Erection (Labor Savings)</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Wind Resistance</td>
<td>High</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Seismic Force Resistance</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
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<tr>
<td>Life-cycle Savings</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Competitive Installed Cost</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
</tbody>
</table>
At 9 pounds per cubic foot (3 pounds per square foot) Outdoor Venture Corporation can ship multiple buildings: per carrier, at the same time by: flat-bed truck, container, air cargo, airdrop, rail, or sea.
Comparing relative number of parts & labor
Traditional construction vs. iPanel™ construction

- Framing 4’ x 8’:
  - 6 - 2 x 4s
  - 16 Framing Nails

- Sheathing:
  - 1 Sheathing Panel
  - 72 Nails

- Insulation:
  - 3 Insulation Batts
  - 66 Staples

- 4’ x 8’ Wallboard:
  - 1 Sheet of Wallboard
  - 54 Nails

= 219 Components for insulated wall
+ brick or block count (if applicable) + hours of labor

= 13 Components for one iPanel™ section delivered from factory
+ 4 nuts/bolts/washers + Minutes of Labor

iPanel™ offers up to 8’ X 12’ wall, roof and floor Sections
## Benefits Summary

<table>
<thead>
<tr>
<th>Builder Benefits</th>
<th>Owner Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Fast construction:</td>
<td>• Energy efficiency (low utility cost)</td>
</tr>
<tr>
<td>• Lower insurance cost</td>
<td>• Mold, mildew, and rot proof (avoids &quot;sick building syndrome&quot;)</td>
</tr>
<tr>
<td>• Lower financing cost</td>
<td>• Termite, insect, and pest proof</td>
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<tr>
<td>• Lower equipment rental cost</td>
<td>• Waterproof</td>
</tr>
<tr>
<td>• Faster sales cycles/occupancy</td>
<td>• Enhanced safety:</td>
</tr>
<tr>
<td>• Fewer workers</td>
<td>• Wind resistant (class 5 hurricane)</td>
</tr>
<tr>
<td>• More buildings built per season</td>
<td>• Wind-borne debris resistant</td>
</tr>
<tr>
<td>• Lower HVAC tonnage</td>
<td>• Earthquake resistant</td>
</tr>
<tr>
<td>• Low maintenance/fewer call-backs</td>
<td>• Fire resistant</td>
</tr>
<tr>
<td>• Marketing advantage</td>
<td>• Reduced insurance premiums</td>
</tr>
<tr>
<td>• Fewer materials to manage/handle</td>
<td>• Low maintenance</td>
</tr>
<tr>
<td>• Avoids material shortages</td>
<td>• Long-term durability</td>
</tr>
<tr>
<td>• Green building credits</td>
<td>• No offgassing</td>
</tr>
<tr>
<td>• Wiring/support/connection trenches</td>
<td>• Sound insulation</td>
</tr>
<tr>
<td></td>
<td>• Design flexibility</td>
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</tbody>
</table>
Applications

Single Family: iPanel™ can be used for almost any style of construction, from affordable to luxury, shipping from the factory with an attractive and low maintenance finish, or supporting the application of most any traditional exterior finish.

Multifamily: iPanel™ is ideal for low-rise and mid-rise buildings, able to serve as wall, floor and roof systems. The built-in wiring trenches facilitate complex wiring of multi-unit buildings. iPanel™ shortens construction cycles, where time is money.

Education: iPanel™ is suited to both permanent and portable classroom and academic construction. Our product exceeds municipal energy efficiency guidelines, remains mold, mildew and rot free, and creates a comfortable and quiet setting for learning.

Commercial: Extensively customizable, iPanel™ panels may be used to serve a wide range of commercial uses from retail, to industrial or office. Corporations with many projects, such as chain stores, can leverage the value of factory designed and precut sections that quickly assemble on site.

Military and Remote Sites: Lightweight and easy to construct, iPanel™ prefabricated structures are ideal for forward deployed military units or any difficult to reach location, such as burgeoning oil sands towns, NGO sites, mining, and others.

Energy and Portable Housing: FEMA, U.S. States, NGOs and others can warehouse and rapidly deploy iPanel™ based emergency housing. Outdoor Venture Corporation builds transportable, easily erected, affordable, safe, reusable, and comfortable designs for government and relief organizations.
iPanel™ Panelized Building panel sections

(Panel sections arrive at job site in sizes up to 10’ x 12’)

Typical wall, roof or floor sections shipped from factory are 6’ x 12’ (1.8 x 3.6 meters)

iPanel™ panel components
Modular Buildings - Easily Assembled. Reusable and Relocatable.

Available in various sizes and configurations. Model shown is 24x40 (960 square feet). Can be divided into two independent units (24x20). All units are stackable.
Special Purpose Buildings

- Mail Screening Facilities
- Wind Turbine Utility
- Railroad Crossing Control
- Safety/Emergency Shelter
- Other

Each unit provides a fully self-contained, conditioned, sealed environment.

- Fully sealed (no contaminant leakage)
- Sanitize-able (inside and out)
- Heat welded floors
- Transportable including ISO lift holes and forklift pockets.
iPanel™ supports site-built panelized and modular construction for high quality affordable housing

iPanel™ affordable homes can be completed swiftly. Proper scheduling of erection crews will ensure rapid completions of weather structures. Window/door crews, scheduled tightly in behind the enclosure erection crews, allows completion of each 1260’ sq. ft. building structure in a few days or less per 5-man erection crew. Partitions, electrical, cabinetry, plumbing, wallboard, fixtures and finishing can then be tightly scheduled so as to complete houses to turnkey levels within 2 to 4 weeks after lock-up of enclosures.
The iPanel™ is architecturally transparent; i.e., the finished buildings can look however an architect chooses, or the factory finish (deep-pattern embossed) can become the final exterior, and in some cases, the interior surface. Building finishes available: paint, gypsum, wood, synthetic or polymer stucco, full/split brick or block, stone, tile, granite or marble.

Simulated split-face block (Polymer based)
Tests and Certifications

Hurricane Resistant: Can meet Florida's 2001 Category 5 hurricane wind zone building codes (156+ MPH).

Earthquake Resistant Construction: RADCO certified transverse, axial, and racking shear confirm that the iPanel™ withstands high levels of seismic forces.

Strength-to-Weight Ratio: Certified to ASTM E-72 testing procedures for full-wall-distributed-load-bearing and point-load certification (unsupported panel sections).

Rigid Foam: Foam certified to ASTM D-1621 compressive strength at 20 psi.

P.S.I. Stand-Alone Structural Capacities: Certified to ASTM E-72.

Resiliency: Certified to ASTM E-72, iPanel™ is resilient, returning to its original shape after load forces abate (recovery of transverse deflection after load removal).

Waterproof: Certified to ASTM D-2856, water impermeable.

Combustibility: Certified ASTM E-84 (Class 1) fire resistant.

Insulation R Factor: Certified to ASTM C-518 @ 7.25 R per inch (0.138K).
Sales Inquiries:

Commercial

Mike Peterson  
Business Development Manager  
Mike.Peterson@outdoorventure.com  
Mobile: 502.639.7641

Government

Joe Fields  
VP Business Development  
Joe.Fields@outdoorventure.com  
Mobile: 423.663.7053

Corporate

Outdoor Venture Corporation  
30 Venture Drive  
Stearns, KY 42647  
Telephone: 606.376.5021  
Fax: 606.376.3341  
www.outdoorventure.com

Anita Sutton  
Business Development Manager  
Anita.Sutton@outdoorventure.com  
Telephone: 606-376-5021, Ext. 233