SIP Walls are Engineered to Minimize Thermal Bridging

What are Structural Insulated Panels?
The basic definition of a structural insulated panel (SIP) is a sandwich panel which consists of a foam plastic insulation core securely bonded between two structural facings (such as oriented strand board). Other structural facings can be used for specific applications. The foam core in a SIP performs a structural, insulating and air-sealing function in wall, roof, floor and foundation systems.

SIPs Conserve Energy
The foam insulation used in SIPs is extremely effective because it is solid and consistent throughout the home. In addition, SIPs are made in large sections, up to 8'-24', meaning there are fewer gaps and heat or cooling loss due to air infiltration.

SIP homes have repeatedly demonstrated annual energy savings of 50-60% when combined with other high performance systems. SIP test homes monitored by the Department of Energy’s Oak Ridge National Laboratory had heating and cooling costs as low as 45 cents per day.

Home energy use has a sizable impact on the environment. Homes account for 15% of energy use nationwide, and release on average 22,000 lbs of CO2 into the atmosphere annually, roughly twice as much as the average car. Building a SIP home that uses half the energy will be the same as removing one car from America’s highways.
Healthy Indoor Environment

Recent studies indicate that the indoor air quality (IAQ) in homes can have significant effects on respiratory illness, particularly childhood asthma. The degree of tightness capable in a SIP home allows greater control over IAQ by limiting incoming air to mechanical ventilation systems that can filter air for allergens or remove humidity.

The inside of a SIP panel is solid, continuous insulation, absent of catty voids often prone to mold growth in wood frame houses. Mold growth can also lead to serious respiratory problems and allergic reactions.

Economics of Energy Efficiency

Owners concerned with the “payback” on a SIP home often find that the utility savings of a SIP home are so great they surpass any incremental mortgage payments.

SIP homes qualify for many Energy Efficient Mortgages (EEMs) that allow income-to-loan ratios to be stretched if an energy-efficient home is purchased. In addition, SIP homes have a higher appraised value, as much as $25 or more for every dollar of annual energy savings.

Durability and Safety

Structural insulated panels function like a steel I-beam. This web and flange design delivers engineered structural performance. Resistance to air infiltration and moisture intrusion increases the life of a home, and building longevity is a key component in environmentally sustainable building.

SIP homes have withstood hurricane winds and earthquakes with amazing integrity owing to superior transverse load resistance. The solid construction of SIPs makes a SIP home safer and more comfortable for your family.

SIPs Save Time and Labor

A recent R.S. Means study shows building with SIPs can save 41% on labor and up to 55% on time (BASF Corporation Time and Motion Study, R.S. Means, 2006). That’s because SIPs arrive at the construction site ready to set in place with speed and precision and there is no need to install sheathing or insulation.

Experience the Benefits of a “Green” Home with Structural Insulated Panels

Where Can I Find a SIP Home?

To find a SIP manufacturer, dealer/distributor, builder, design professional or remodeler who is a member of the Structural Insulated Panel Association, search our member database at www.sips.org.